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Review of Three Hundred Breast Cases

Pathology, Terminology, Relationship of so-called "Chronic Cystic Mastitis" to Cancer

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This study was undertaken to review the pathology of 300 consecutive breast specimens, of complete and local excisions removed at the Winnipeg General Hospital during 1943 and 1944. Comments on the clinical significance of the lesions in the above breast specimens, with special note being taken of the relation of "chronic cystic mastitis" to cancer, are included. Changing terminology as applied to our nomenclature is discussed.

The varied and complex terminology used in studies of the breast has made the problem of understanding and correlating the various factors of breast pathology a difficult one. This is especially true in the disease entity known as "chronic cystic mastitis." Lack of understanding and appreciation of normal breast variations has added to the problem. The breasts, small just after birth, develop into a secondary sex organ at puberty. During the active sex period, from puberty to the menopause, the breast undergoes cyclic monthly changes which are somewhat parallel to the endometrial changes of the uterus. Concurrent examinations of breast and endometrium show their inter-relationship. Photomicrographs No. 1 and 2 illustrate the histological features of the lobule during the normal menstrual cycle. Physical examination reveals recognizable changes. Following menstruation the breasts are soft, with an actual diminution of volume. Then as the period of ovulation is approached, the breasts become firmer, tenser and increase in size. During pregnancy these gross and microscopic changes become more pronounced, as the breast becomes an organ of lactation. These microscopic changes are illustrated in Figs. 3, 4, 5, and 6. Atrophy of the glandular components of the breast, with fibrosis and fatty replacement, occurs as a process of aging. This involution, being patchy, may lead to an erroneous diagnosis of "tumor" of the breast. Operation following this diagnosis shows a mass of normal glandular tissue surrounded by fat.

In our classification we used, in so far as possible, the Standard Nomenclature of the American Medical Association. In the malignant group we have adopted one new term, namely lobular carcinoma, and the modified concept of duct carcinoma. All carcinomas of the breast arise from either

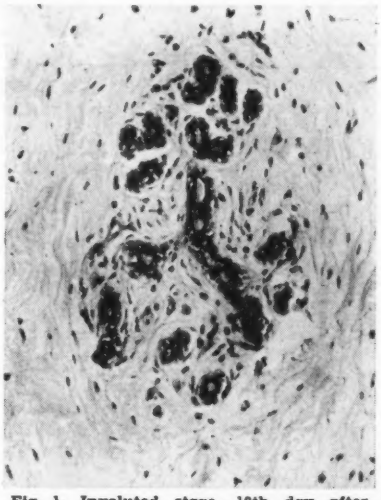


Fig. 1. Involuted stage. 10th day after onset of menstruation. Acini are less numerous, with their lumina collapsed. Intervening stroma is dense with lymphocytes present. x 200.

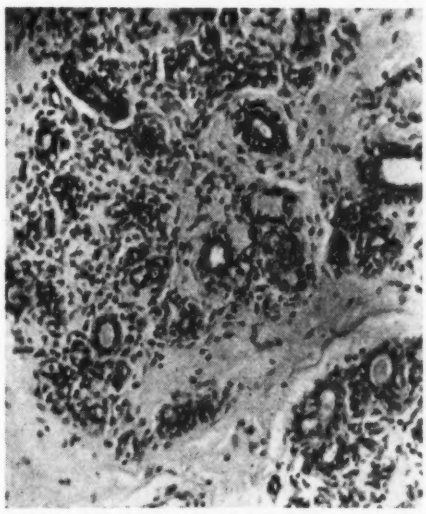


Fig. 2. Lobule showing lutein phase of cycle. One day previous to onset of menstruation. Acini are numerous, cell linings are cuboidal to columnar. Lumina are open and contain secretion. Changes are very similar to that seen during the second and third month of pregnancy. x 180.

the epithelium of the duct system or the terminal acini within the lobule. Approximately 95% of all carcinomas of the breast are of duct origin. The actual site of origin for most is given as the terminal portion of the duct, which participates, along with the lobule in continual cyclic changes. Within the large group of duct carcinomas we have several well recognized subvariants—

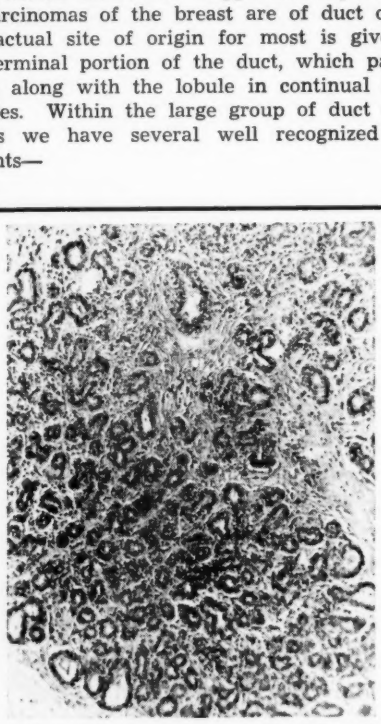


Fig. 3. Breast during the third month of pregnancy. x 90.

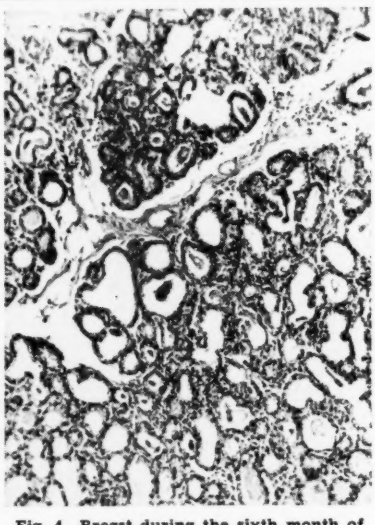


Fig. 4. Breast during the sixth month of pregnancy. x 90.

(a) The so-called scirrhous cancinoma. This is the commonest type of infiltrating duct carcinoma. Fig. 7.

(b) Bulky mammary type. This group is also called medullary or encephaloid carcinoma. Histologically it is very cellular, but clinically relatively benign. It is this type which often clinically presents as a large fungating carcinoma, having a long history. Cures have been known to follow a simple mastectomy, which was done not with a hope of cure, but merely to rid the patient of the large ulcerating tumor.

(c) Colloid carcinoma — usually seen as a degenerative process within a large tumor.

(d) Intraduct or "comedo" carcinoma. This is a carcinoma still confined to within the ducts, and hence a very favorable type. Fig. 9.

(e) Intracystic carcinoma. A very rare carcinoma arising from the cells lining a true breast cyst. Fig. 10.

(f) Paget's Disease. The pathogenesis of this lesion is controversial, but of practical clinical significance is the fact that it never occurs in the absence of underlying duct carcinoma.

Lobular or acinar carcinoma. A tumor arising from the lobule of the breast in contrast to an origin from duct epithelium. This is a distinctive lesion and is recognizable in two forms. Lobular carcinoma in situ, where the tumor is confined to the lobule, with no infiltration. Fig. 11. The second form is the infiltrating type (Fig. 12). Its degree of malignancy is probably comparable to an infiltrating duct carcinoma grade 3. The exact behavior patterns of lobular carcinoma are, as yet, not completely known.

In the non-malignant group the adoption of the concept of "chemical" mastitis in contrast to bacterial mastitis is worthy of note. Associated with dilated ducts there is almost invariably retention of secretion which may erode through the duct wall releasing the contents into the periductal area. Being an irritant, a cellular reaction results. This produces a picture which at times can only be distinguished from a bacterial mastitis by culturing. Chemical mastitis is always sterile. The inflammation of this type of mastitis is usually confined to the periductal areas.

The term "fibrous mastopathy" is correctly used only when it indicates an increase in fibrous tissue and decrease in number of lobules in the younger age group. Fibrosis is a process of aging and the post menopausal fibrosed breast is not pathological.

Boeck's Sarcoid: This is a chronic granulomatous lesion which may involve the breast. It is apparently closely allied to tuberculosis but differs in that tubercle bacilli are never demonstrable in Boeck's sarcoid. Histologically, although closely resembling tuberculosis it tends to have a fairly typical picture. (Fig. 13.)

Other malignant lesions, together with most other benign lesions need no further comment. Nor have we made any essential changes in terminology from that already in common use, with the exception of that disease entity commonly spoken of as "chronic cystic mastitis." Just what is "chronic cystic mastitis" and what is its importance? Reviews of the literature show that it has been used to designate every known normal and abnormal condition of the breast except cancer. MacCarty and Mensing give, and I quote—"By chronic cystic mastitis is meant the presence in the breast of one or more of the following conditions: fibrosis, hyalinized fibrosis, lymphocytic infiltration, distortions, partial or complete destruction of glandular groups, obliteration or dilatation of acinar lumina, atrophy, hypertrophy or hyperplasia of parenchyma." Many other authors do not bother to state their criteria. For our own work we have preferred to adopt the term employed by Foote and Stewart, namely, "cystic and proliferative disease of the breast", together with their criteria for its diagnosis. These are the presence of one or more of the following disease entities:

1. Cysts.
2. Papillomas.
3. Apocrine type of epithelium.
4. Blunt duct adenosis.
5. Sclerosing adenosis.

These five lesions tend to occur together, with two or more usually occuring in the same breast. The two component parts of cystic and proliferative disease of the breast are the cystic one and the proliferative one. Either one may be the predominant lesion in the breast, but in our material most breasts in this group show both cystic and proliferative features. No further comment need be made about the cysts except that they are usually multiple. Papillomas also tend to be multiple and to occur together with one or more of the other lesions (Fig. 14).

By apocrine epithelium is meant the typical acidophilic staining, tall columnar type of epithelium (Fig. 15). It is almost certainly not of sweat gland origin but probably arises on a basis of hyperplasia and/or metaplasia from the normal lining of ducts, being often traceable to them. It is considered to be proliferative in nature and is often seen lining cysts, with or without formation of papillomas. Carcinomas rarely arise from this type of epithelium.

Blunt duct adenosis—A proliferative lesion of the breast consisting of ducts which end abruptly and do not terminate in lobules. They are characteristically seen in clusters, vary in size and the type of cell lining (Figs. 16, 17). This condition is invariably associated with cysts in the breast, and there is very good evidence that blunt ducts are the probable source and mechanism whereby cysts are produced. Fig. 17 illustrates this point. Since the process is reversible at any stage, most of the blunt ducts become atrophic and only a few go on to gross cyst formation.

Sclerosing Adenosis—Two Types

1. Gross type: Producing a palpable, freely movable lump in the breast — usual age 20 - 30. It is discrete but not definitely encapsulated, usually shows a certain lobulation and characistically lacks the definite features of cancer. It

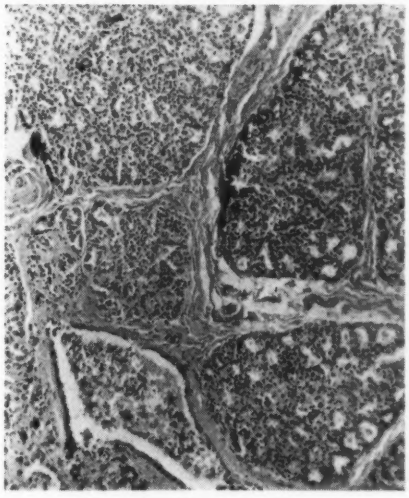


Fig. 5. Breast at full term. x 90.

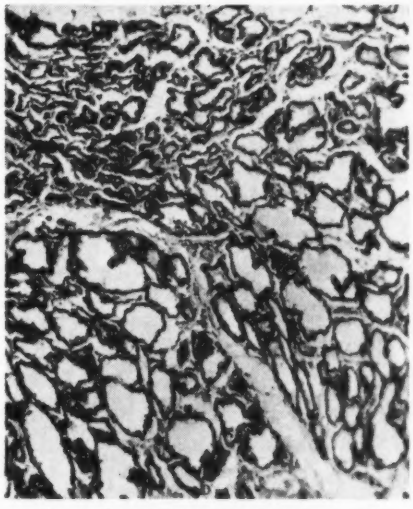


Fig. 6. Breast 10 days post partum. x 90.

is easily mistaken for cancer, both in the gross and microscopic, if one is not familiar with the condition. It constitutes about 1 per 100 tumors of the breast.

2. Microscopic form is 20 to 30 times as common as the gross form. Histologically (Fig. 18), it consists of an epithelial overgrowth without loss of the general topography of the lobular pattern. In the active phase there is usually papillary and solid epithelial overgrowth. The epithelial proliferation of this lesion is usually replaced by fibrosis. This sclerotic end phase may easily be confused with infiltrating cancer since cells are cut off by fibrosis, producing a pseudo-infiltrating pattern. This lesion has never been proven to give rise to cancer. The recommended treatment is local excision.

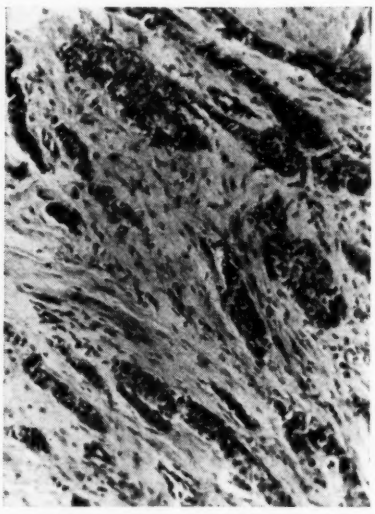


Fig. 7. Infiltrating duct carcinoma grade 2 (so-called "scirrhous carcinoma"). x 150.

Table No. 1 gives the summary for the non-malignant breast lesions in our series indicating their incidence, age, size of lesion and type of surgical operation.

Recently adopted by the Winnipeg General Hospital (after Memorial Hospital, New York) is the procedure of tagging the lymph node level in the axillae during the course of a radical amputation of the breast. This enables the pathologist to give information on the extent of tumor spread in the axillae, at the time of operation.

Spread of tumor from the breast is by:

1. Direct extension.
2. Lymphatic to (a) axillary lymph nodes of same side; (b) intra-thoracic; (c) opposite breast or axilla.
3. By blood stream.

From a practical standpoint the most important route in so far as treatment is concerned is the spread to the axilla of the same side. Anatomically the axillary nodes consist of three main groups: the inferior or pectoral group, the central and the apical groups. The number of nodes found

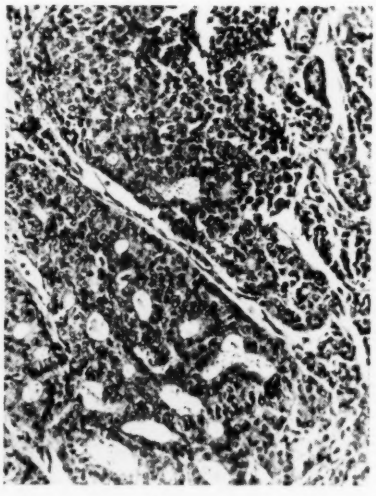
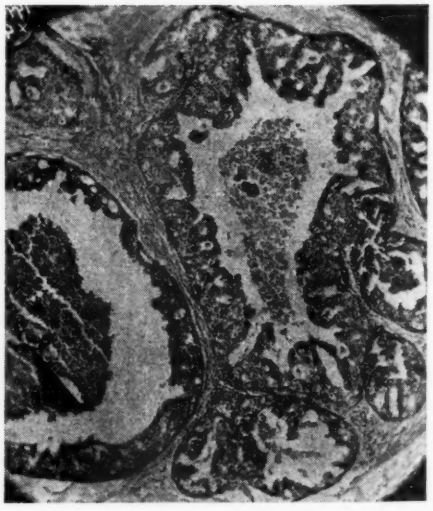


Fig. 8. Bulky adenocarcinoma. Type of duct carcinoma. x 175.



No. 9. Non-infiltrating duct carcinoma, or so-called "comedo carcinoma." x 40.

in axillae at autopsy and in surgical specimens varies greatly, chiefly depending on the surgeon. In our own material the number varies from 5 to 25, with an average of 12 nodes in each axilla. The levels of lymph node involvement at time of operation is the single most important prognostic index to probable cure, as well as a guide to subsequent post-operative radiation.

Fig. 19 (after Gray's Anatomy) illustrates the lymph node levels in the axilla, with the method used to tag them. The tags consist of small metal discs approximately the size of a ten cent piece with a small perforation for the suture, and the number stamped on it. Tags are sterilized and nodes are tagged during the operation as the various node levels are exposed. It is important to realize that in actual distance, nodes at level 2 may be located further from the nipple than nodes at level 3, although the line of drainage is from 1 through 2 to 3.

Although the type of tumor and size at time of operation is of importance, the degree of spread to axillary nodes gives us our best prognostic index. Figures vary, but averages from the larger series than our own give 10 year survival rates as:

Tumor confined to breast	70 - 90%
Nodes involved at level 1	50 - 70%
Nodes involved at level 2	20 - 50%
Nodes involved at level 3	0 - 15%

Table 2 gives the pathology of the 102 malignant lesions examined in our series. It is most important in the pathologist's examination of a radically amputated breast to make note, not only of the tumor and its location, but the size of the overlying skin ellipse, the axillae and the breast tissue in which the tumor has arisen. Since recognition of this later feature was not always recorded in our material the figures given for incidence of "associated finding" are less than what actually existed.

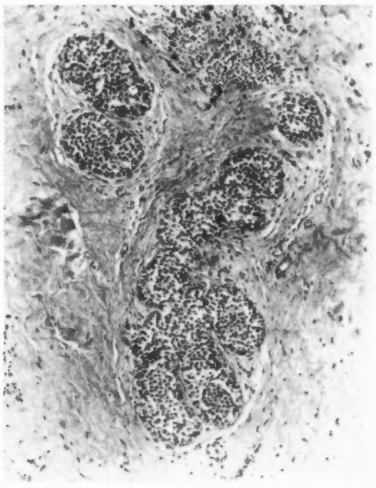


Fig. 11. Lobular carcinoma in situ: malignant changes are fully developed, but still confined to the lobule. x 85.

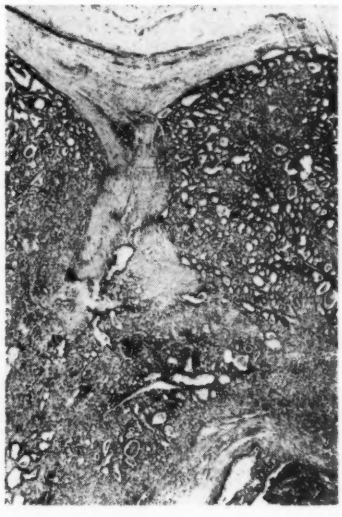


Fig. 10. Intracystic carcinoma. Low grade—cyst wall is present. x 19.

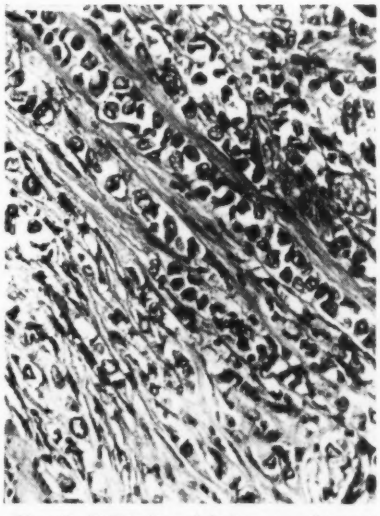


Fig. 12. Infiltrating lobular carcinoma grade 3. Showing characteristic large cells with linear type of infiltration pattern. x 300.

Relation of So-Called "Chronic Cystic Mastitis" to Cancer of the Breast

The question of the relationship of cystic and proliferative disease of the breast (including papillomas) to cancer is a very important one from the clinical standpoint, since it, out of necessity, will influence the type of treatment recommended.

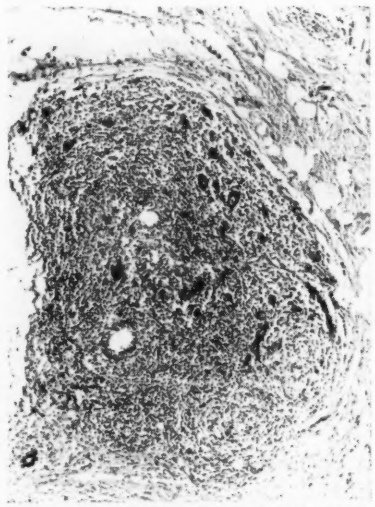


Fig. 13. Boeck's Sarcoid. Lobule of breast showing giant cells, epithelioid cells with absence of caseation. Guinea pig implantation of tissue failed to develop any lesion. x 85.

To prove a causal relation between cystic and proliferative disease and cancer we must be able to demonstrate one or all of the following:

1. A traceability, under the microscope, of the origin of cancer from one of the lesions of cystic and proliferative disease. This method is the only direct method available to us. It is out of necessity difficult to demonstrate, since the tumor must be removed early, before traceability is lost. In our own series we were unable to demonstrate a carcinoma arising in one of the five lesions of cystic and proliferative disease. In one single case we had atypical papillomas associated with cancer. Nevertheless this association is not direct proof. It is significant to note, however, that the rarely occurring atypical papillomas, usually part of cystic and proliferative breast disease, are five times as common in cancerous as opposed to non-cancerous breasts (Foote and Stewart). Figures from other series vary, but for the most, it is rarely possible to demonstrate conclusively origin of cancer from one of the five non-cancerous lesions.

2. An appreciably higher incidence of cystic and proliferative disease in cancerous breasts as opposed to the occurrence of cystic and proliferative disease in the non-cancerous breast.

This is only an indirect means of obtaining information. From our own series we found cystic and proliferative disease of the breast to be associated with carcinoma in 15% with only two cases of solitary papillomas and five cases of

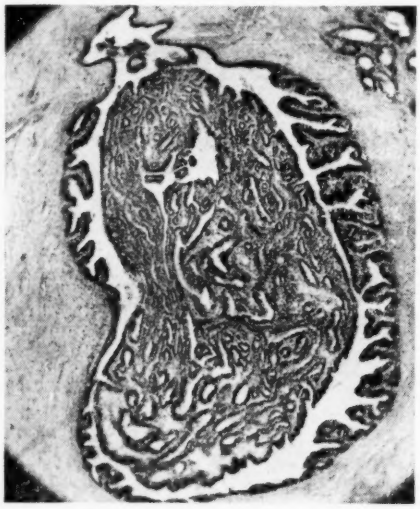


Fig. 14. Non-malignant intra-ductal papilloma. x 27.

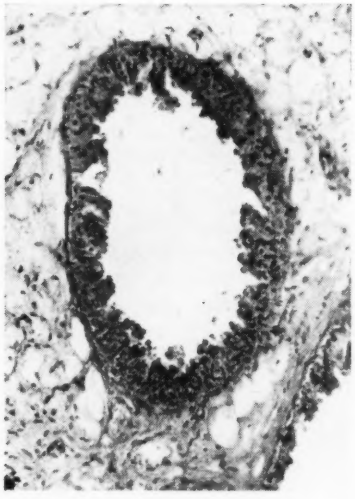


Fig. 15. "Apocrine" epithelium lining a cyst with papillary overgrowth —, benign. x 150.

papillomatosis to be associated with carcinoma. This figure is however too low, since adequate examination of the surrounding breast tissue was not made in all cases. Routine examinations of the breasts of women coming to post-mortem gives the incidence of cystic and proliferative disease of the breast, occurring in the supposedly normal, as being from 15 - 90%, depending on how critically the examination is done, and what criteria for diagnosis are used. Foote and Stewart, in their series, found the incidence of cystic and proliferative disease in the cancerous group to be 59%, in the non-cancerous group to be 69%. These are selected groups, both having come to the hospital because of an abnormal breast. There is a relatively high incidence of chronic cystic and proliferative disease of the breast in the general population. As well, in selected groups of non-cancerous and cancerous breasts we find an approximately equal co-existence of cystic and proliferative disease. We are therefore not justified in assuming that the mere association of cystic and proliferative disease with cancer in the same breast is positive evidence that the cancer has arisen from the former.

3. Follow-up figures showing an appreciably higher incidence of cancer developing in women who have cystic and proliferative disease, as opposed to the incidence of cancer in the normal population.

We have no follow up figures of our own to report. Geschickter reports on a series of 793 patients followed for ten years. The expected occurrence of mammary cancer for an average age of 40 years is 0.42%. In Geschickter's series ten cases of cancer developed, or three times the expected number. Warren, in a large series, reports that the rate of cancer for women with pre-existing benign breast lesions is 4.5 times as great as for all women. The figures given by

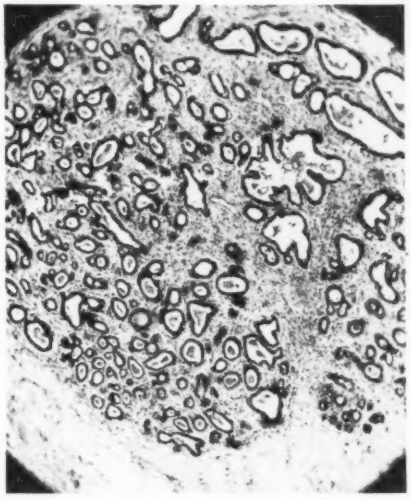


Fig. 17. Blunt duct adenosis showing early cyst formation in lower right corner. x 40.

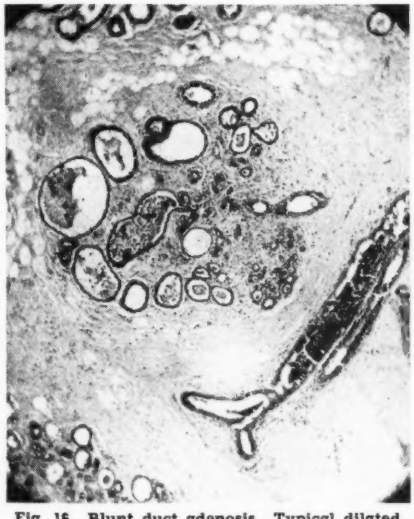


Fig. 16. Blunt duct adenosis. Typical dilated duct endings, some of which contain secretions. x 40.

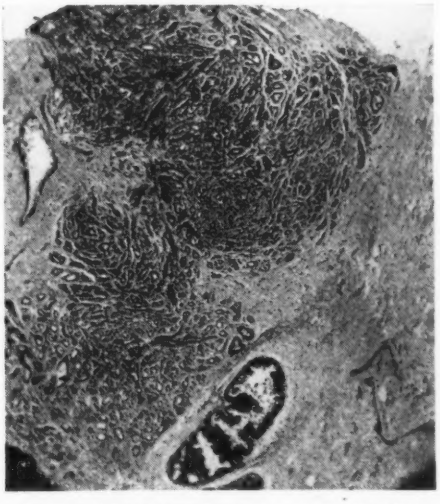


Fig. 18. Sclerosing adenosis — fibrotic phase showing distortion of lobular pattern with retention of the general lobular pattern. x 40.

both these authors indicate the higher incidence of carcinoma developing in a breast where a benign tumor has been excised. From a clinical standpoint it is then important to follow up all patients who have had a local excision for a benign lesion. Foote and Stewart, however, point out that exact figures which will stand up to criticism are hard to obtain. This criticism is justified, since, as in Geschickter's series, over half of the cases developing cancer, had the diagnosis of benign lesion made by clinical observation only, or the benign lesion was a fibro-adenoma. By our accepted definition fibro-adenomas are not part of cystic and proliferative disease of the breast. We agree with Foote and Stewart's conclusion that there is as yet no definite proof that any specific lesion or lesions which are part of the so-called "chronic cystic mastitis" are necessarily more apt to be followed by cancer than any other benign lesion.

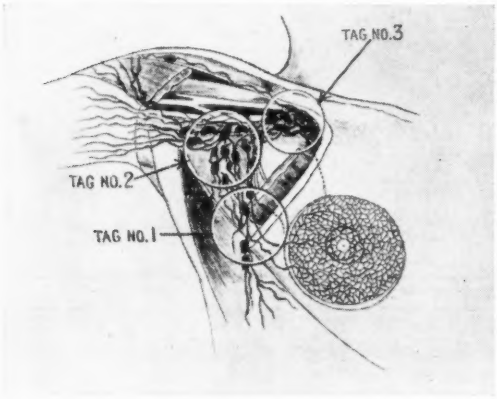


Fig. 19. Axillary lymph node levels.
Tag No. 1 for the inferior or pectoral group.
Tag No. 2 for the central group.
Tag No. 3 for the apical group.

Before commenting on the surgical treatment of cystic and proliferative disease, mention should be made of the use of endocrines. Since almost certainly this disease entity is closely related to the endocrine balance of estrogen-progesterone, it would seem logical that it should be very amenable to endocrine therapy. We believe that one should be very careful before attempting to use moderately large doses, mainly for two reasons:

1. The diagnosis must be definitely established as being benign and not cancer—this often can only be accomplished by surgical exploration.

2. The status of the estrogens as possible carcinogenic agents, has not as yet been fully established. Certainly massive doses without careful follow-up is to be condemned.

It has already been pointed out that over half the cases in our series of cystic and proliferative disease of breast were treated by simple amputations. Quoting the four authors, previously mentioned, namely, Warren, Geschickter, Foote and Stewart, they all agree on at least one thing—that simple amputation of the breast for so-called "chronic cystic mastitis" on the grounds of preventing cancer is not justified. For one thing, since this disease is often bilateral to prevent cancer you must do bilateral amputations. This is borne out in follow-ups which show that approximately half the cancers subsequently developing occur on the side opposite to that in which the initial local excision was performed.

Probably of sufficient importance to mention, but which we could not show from our series, is the relatively high incidence of bilateral mammary carcinoma. Foote and Stewart conclude that women who have already had one breast amputated for a carcinoma have a ten times better chance of developing a second carcinoma in the other breast, than the rest of the population in the same age group. In other words, 5 per cent of mammary cancers are bilateral, and hence the statement — "The most common 'precancerous' lesion of one breast is a cancer of the other.

Summary

1. Results of the analysis of the pathology of 300 consecutive breasts and local excision of breasts are given.

2. Adaptation of new terminology including that of cystic and proliferative disease of breast is recommended.

3. Method of tagging axillae, to be used as a prognostic index and guide to radiation, is described.

4. Discussion with review of literature on the relation of so-called "chronic cystic mastitis" to cancer is presented.

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♦

Age lends the graces that are sure to please;
Folks want their doctors mouldy, like their cheese.
—O. W. Holmes.

Table 1

(L.E., local excision; S.A., simple amputation; R.M., radical amputation)

Non-Malignant Lesions—182 Out of 284 Cases

Diagnosis	No.	%	Extremes of Age	Age (Av.)	Size cms.	Operation Type
Intraductal papilloma	2	0.7	13-41			L.E. 2
Duct dilatation and stasis	7	2.4	29-65	47.2		S.A. 4, L.E. 3
Fibroadenomas	45	15.9	15-49	31.7	3.1	L.E. 44, S.A. 1
Lipoma	1	0.4	22			L.E. 1
Solitary cyst	17	6	28-52	39	4	L.E. 17
Fibrous mastopathy	6	2.1	24-39	30		L.E. 6
Gynecomastia (male)	8	2.8	18-66			S.A. 8
Abscess	2	0.7	21-34			L.E. 2
Infections (Granuloma—Boeck Sarcoid)	2	0.7	41-62			R.M. 1, S.A. 1
Chemical mastitis	7	2.4	26-49	41		L.E. 7
Fat necrosis	1	0.4	35			L.E. 1
Fatty breast	2	0.7	60-75			S.A. 2
No lesion	19	6.9	26-56	40.4		L.E. 12, S.A. 7
Cystic and proliferative						
("chronic cystic mastitis")	63	22.2	27-69	42		L.E. 40, S.A. 23
		% (of cystic and proliferative)				
Cysts	41	65				
Apocrine epithelium	36	57				
Blunt duct adenosis	48	76				
Sclerosing adenosis	6	9				
Duct papillomatosis	26	41				
Associated findings						
Hyperplasia of duct epithelium	14	22				
Duct dilatation and stasis	24	38				
Periductal mastitis	12	19				
Duct metaplasia	1	1.6				
Fibroadenoma	4	6.3				
Secondary lobular alteration	7	11				
Atrophic breast	2	3.1				
Fat necrosis	3	4.7				
Intracystic papilloma	1	1.6				
Lobular carcinoma in situ	1	1.6				

Table 2

Malignant Lesions — 102 Out of 284 Cases

Diagnosis	No.	Extremes of Age	Age (Av.)	Size cms.	Operation Type
Carcinoma					
(35.1% of all cases)	100	24-82	55.1	2.9	R.M. 87, S.A. 7
				(.8-10)	L.E. 6
Node involvement at operation	40				
Duct Carcinoma in situ	4	38-40	39		R.M. 3, S.A. 1
Associated findings:					
Duct dilatation and stasis	1				
Apocrine epithelium	2				
Blunt duct adenosis	2				
Papillomatosis	1				
Hyperplasia duct epithelium	1				
Infiltrating duct carcinoma	85	24-76	55.2	2.9	R.M. 74, S.A. 5
Associated findings:				(.8-10)	L.E. 6

Continued on Next Page

Table 2 (Continued)

Duct carcinoma in situ	10				
Adenocarcinoma	4				
Bulky mammary carcinoma	4				
Lobular carcinoma	1				
Active adenosis	1				
Multiple primary	1				
Atypical papillomas	1				
Atrophic breast tissue	10				
Blunt duct adenosis	7				
Duct dilatation and stasis	5				
Fibroadenomas	3				
Hyperplasia duct epithelium	1				
Sclerosing adenosis	1				
Infiltrating lobular carcinoma	8	53-82	66	4.7 (3.5-6)	R.M. 8
Associated findings:					
In situ carcinoma	1				
Apocrine epithelium	1				
Papillomatosis	2				
Pagets Disease of the Nipple	1	51			
Associated findings:					
Duct carcinoma in situ	1				
Intracystic carcinoma	2	73			S.A. 2
Cystic and proliferative with carcinoma	15				
Sarcoma	2	23-65			L.E. 1, S.A. 1

Management of Asthma

C. H. A. Walton, M.Sc., M.D., F.A.C.P.

Preceding articles in this series have indicated some of the general problems of allergy, including diagnosis. One of the commonest manifestations of allergy is asthma and its management is often most difficult. Obviously, attention must always be directed to discovering the allergic and other factors causing the disease, but usually symptomatic or palliative measures must first be applied. In some cases complete study of the case fails to reveal the cause and symptomatic measures must be used throughout life.

During the acute asthmatic attack, the patient is anxious and apprehensive and it is desirable to take all possible steps to allay this anxiety and restore the patient's confidence. For this and other reasons, hospitalization may be necessary in severe or refractory cases. The management of the patient is greatly facilitated and, perhaps more important, he is removed from an environment which may be the source of his offending allergens and perhaps also a source of nervous and emotional disturbance. Emotional disturbances in asthma are frequent but are secondary to the unpleasant nature of the disease. Psychiatric measures are of the greatest value but are unlikely to cure the disease unless the primary causes can be satisfactorily dealt with.

Sixth in a series of short articles on Allergy. From the Department of Medicine, University of Manitoba, August, 1945.

There are many drugs which are useful and of these the most important is epinephrine. Given subcutaneously, its effect is usually prompt. The 1:1,000 dilution is used and the dose varies from 3 to 15 minims (0.2 to 1.0 cc). The dose should be as small as possible to avoid the often unpleasant side effects of the drug. In the ordinary case 5 minims should be sufficient and it can be repeated as often as necessary. Larger doses are indicated only when the patient has become accustomed to the effects of small doses. The most effective time to administer epinephrine is early in the attack and for this reason, it is often a good plan to teach the patient, or a relative, the technique of administration. Risk of abuse is small and most patients become very expert in its proper use. The only contra-indications to the use of epinephrine are hyperthyroidism, diabetes mellitus, coronary artery disease and severe hypertension. There is probably very little danger from prolonged use of the drug and habituation does not occur.

Epinephrine, suspended in oil or gelatine may also be used for the purpose of giving slow absorption. Such preparations are not indicated in the acute attack except as an auxiliary measure after the more rapidly acting aqueous form. The possibility of sensitivity to peanut oil must also be considered.

Epinephrine in 1% to 3.5% solutions used by inhalation is a valuable aid and many patients find this method exceedingly useful. It is safe, convenient and painless but not always effective.

Ephedrine is active orally but has a less marked though more prolonged effect than adrenalin. It is most valuable though its side effects of nervousness and tachycardia are drawbacks. Combined with barbiturates and sometimes also with aminophyllin, it is most useful. There are many excellent proprietary forms of this type of combination available on the market. Ephedrine-like drugs in several forms have been developed and sometimes are useful substitutes.

Many asthmatics have discovered for themselves that caffeine helps them. A cup of hot strong coffee is a useful and simple measure and caffeine sodium benzoate in doses of 7½ grains may be helpful when given intramuscularly.

Aminophylline and related drugs are not of great value orally but given intravenously in doses of 3¾ grains to 7½ grains in 50 to 200 ccs. of normal saline solution are often efficacious. It is of less avail in the early acute attack and most efficient in the severe prolonged attack. There is some risk of unpleasant reactions and it must always be given slowly and preferably diluted.

Iodides have a time honoured place in the treatment of asthma and are very valuable at times. They are chiefly indicated when the bronchial secretion has become thick and viscid and difficult to expectorate.

In severe cases which have not responded to the usual measures, especially in status asthmaticus, rectal ether may be very helpful. It is given, in amounts of 3 to 4 ounces, mixed with warm olive oil, by rectal catheter and further amounts of 1 to 2 ounces may be given at intervals of two to four hours if the patient becomes restless. If the usual precautions are exercised this form of treatment is not hazardous. It has often been noted than asthmatics stand general anaesthesia well and that they are often much better postoperatively. Cyclopropane anaesthesia may give striking relief.

There are a number of other measures which are sometimes helpful. Smoking seems to help some. Not uncommonly, alcoholic liquors are beneficial. Aspirin is a widely used and effective remedy but cases of aspirin sensitivity, which are not uncommon, must be watched for.

Oxygen is of little use except in very severe and prolonged asthma. Combined with helium, in proportions of four to one, it is useful but rarely a practical measure under ordinary circumstances. Oxygen with 7% carbon dioxide is often valuable especially as an expectorant.

Morphine and other opiates should be mentioned only to condemn their use. Apart from the obvious danger of addiction, opiates are contraindicated because they depress the cough reflex and may lead to atelectasis and death. The only opiate commonly and safely used, in small doses, is codeine. Morphine is the commonest cause of death in asthma.

Demerol has an antispasmodic effect on the bronchial musculature. It has proved to be very useful in some severe cases which have temporarily lost their reaction in epinephrine. However, a fairly large number of patients do not tolerate this drug and it should therefore be used with caution. I have seen some quite alarming reactions to it.

Asthma is characterized by long or short periods of freedom from symptoms. When the acute phase is controlled, the physician must turn his attention again to a complete study of his patient in an effort to find the cause of the allergy and in an endeavour to prevent further attacks. The patient's entire nervous and physical whole must be studied and his allergic status determined. Nutrition and anxiety require close attention. Finally, the patient must be educated as to the exact nature of his disease. He will be a potential if not an actual asthmatic, all his life.

Obituary

Dr. John Henry Richard Bond

Dr. John Henry Richard Bond, one of Winnipeg's veteran doctors, died at his residence, 167 Donald Street, on August 22nd, aged 86.

He practised at Auckland, New Zealand, and the United States before coming to Winnipeg in 1893. He was a pioneer in X-ray both for diagnosis and therapy, and his first machine was static with huge glass plates. His wife was founder of the Children's Hospital, Winnipeg.

Until a few years ago Dr. Bond was a frequent attendant at meetings of the Winnipeg Medical Society.

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The Hazards of Surgery on the Biliary Tract*

P. H. T. Thorlakson, M.D.

Among the hazards associated with operations on the gall bladder and bile passages are those related to the complications of gallstone disease, hepato-renal failure and the presence of anatomical anomalies.

Having indicated the scope of this presentation, let us consider the measures which, by experience, have proven of value in reducing the risks of biliary tract surgery.

Pre-Operative Investigation

Thoroughness of investigation and accuracy of diagnosis with proper assessment of the reserve of the patient in regards to his cardiac, pulmonary, renal and hepatic function are of great importance. Such information determines the amount of pre-operative preparation, the choice of anesthesia and finally will govern the extent of the surgical procedure to be applied in a given case. Furthermore, even in the presence of a fairly typical clinical syndrome of gall bladder disease, investigation to exclude hiatus hernia, gastric or duodenal ulcer, or carcinome of the stomach or colon should be performed. I doubt whether we can justify the practice of proceeding with an operation on the biliary tract without a barium series to rule out these lesions. The converse is equally true: that an investigation of the gastro-intestinal tract is not complete without a gall bladder visualization. The confidence that one may proceed with major abdominal surgery following a complete radiographic study, justifies the additional inconvenience and expense.

Pre-Operative Preparation

An absolute minimum of forty-eight hours hospitalization before operation should be an unbroken rule in an uncomplicated, simple cholecystectomy. Many factors must be considered in determining the length of time in complicated cases. The pre-operative treatment of jaundice or other complications will be considered later.

Anesthesia

Surgery on the biliary tract should be performed under optimum muscular relaxation. In difficult cases intra-tracheal ether anesthesia, continuous spinal which may be supplemented by intravenous pentathol sodium, or cyclopropane and curare may be used. If these special advantages, which require the services of a highly trained anesthetist, are not available, one may infiltrate the extra peritoneal tissue widely with one per cent novocaine in order to supplement the anesthetic used. A plea for the anesthetist is in order at this point. The surgeon should have the patience to allow the anesthetist sufficient time for proper induction before proceeding with the operation.

Surgical Technique

(a) Adequate exposure

This is the first surgical step to minimize the hazards of biliary tract surgery. This usually demands a para-median muscle splitting incision from a point below the xiphisternum to another point just below the level of the unbilicus. The actual length of the incision may vary depending on the thickness of the abdominal wall but one should never jeopardize the precision of one's anatomical dissection by attempting a difficult task through a small incision. For several years I used the sub-costal incision of Kocher almost exclusively for gall bladder surgery but now I reserve it for special circumstances. In large people with a lower rib margin that runs almost transversely from the xiphisternum outwards and in whom the abdominal musculature is attenuated, a transverse incision is of distinct advantage to the patient during the stage of wound healing. By adequate exposure, is also inferred free mobilization of the omentum, transverse colon, stomach and duodenum. These structures should be displaced over to the left so as to bring the common duct into open view. This is particularly important in cases where a previous operation has resulted in dense adhesions to the under surface of the liver. Here sharp dissection between the liver and the adherent structures is the procedure to be commended. Digging through omental adhesions by blunt dissection causes unnecessary bleeding and is time consuming.

(b) Technique of cholecystectomy

Having brought the gall bladder and common duct into full view by mobilizing and retracting the adjacent structures downwards or over to the left, one is faced ordinarily with two problems: first a cholecystectomy; and secondly, exploration of the common duct. Whether one removes the gall bladder from the cystic duct outwards or from the fundus down to the cystic duct is not a matter of great importance. The first method is preferred. However, either method may be used to advantage under certain circumstances. The point to emphasize is the anatomical dissection and separation of the cystic duct and cystic artery. These should be exposed, clamped and tied separately. The anatomical variations of the cystic duct and artery present certain problems.

* Delivered to Post-Graduate Course, Manitoba Medical College, April 3rd, 1945.

Arteries and Ducts

The anomalies of the hepatic and cystic ducts and arteries have been extensively studied. The possibility of variations from normal and of numerous combinations which can occur would provide a dangerous hazard in performing surgery of the gall bladder. However, in my experience, these abnormalities have been recognized or given trouble in a surprisingly small proportion of cases. The great danger of course is that an anomaly may pass unnoticed either through unnecessary haste or because the situation is too obscured by the effects of disease to permit a free view of the structure under consideration. If this latter circumstance be present the question of procedure must be decided and it may be a matter of great discretion to perform a simpler operation such as drainage rather than to dare possible pitfalls when all landmarks are obliterated.

The following considerations of the commonest anomalies of the biliary vessels and passages are based on studies of these structures by Professor I. M. Thompson (1), Professor of Anatomy at the University of Manitoba, and from the writings of Torek (2):

(a) The right hepatic artery

1. In seventy percent of cases it arises from the main hepatic trunk and reaches the liver by passing behind the common hepatic duct.

2. In twelve percent of cases the right hepatic artery crosses anterior to the hepatic duct or even the common duct.

3. In ten percent of cases the right hepatic artery may be closely associated with the cystic duct and the neck of the gall bladder. It could be easily included in the clamp applied to the cystic duct.

4. In eight percent of cases the right hepatic artery crosses the right border of the hepatic duct or even forms a ring around the hepatic duct.

(b) The cystic artery

1. In eighty-eight percent of cases there is a single cystic artery and in eighty-two percent of cases it arises from the right hepatic artery.

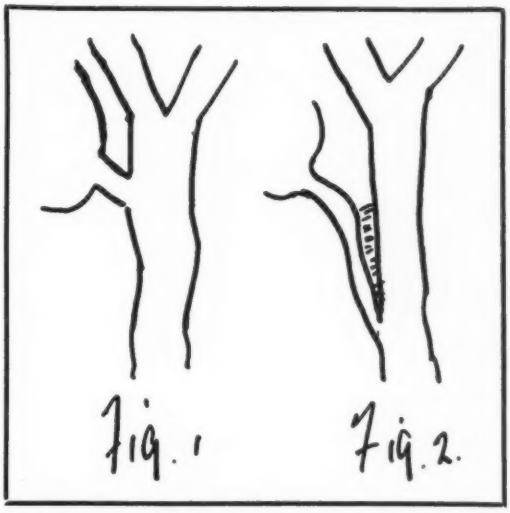
2. In a few percent the cystic artery arises from the gastro-duodenal artery. It must cross the common bile duct to reach the gall bladder. If injured, it may retract considerably and the source of bleeding be difficult to determine.

3. In most cases the cystic artery arises to the right of the main hepatic duct. In twenty-seven percent of cases the cystic artery arises to the left of the hepatic or common duct and must cross one of these to reach the neck of the gall bladder. In two percent, the cystic artery passes behind the main hepatic duct and should it retract the duct may be included in the forcep.

4. In twelve percent of cases there may be an accessory cystic artery of variable origin. Failure to recognize such an additional artery may lead to serious hemorrhage.

(c) The bile ducts

In about seventy-five percent of cases the cystic duct joins the hepatic duct at something like a right angle (Fig. 1). In seventeen percent, the ducts pursue a parallel course before they unite (Fig. 2). They are bound together by fibrous tissue and it may be possible to dissect them from each other for as much as two inches or more. The point of actual union may be only 0.5 - 1 cm. above the ampulla. In eight percent the cystic duct spirals in front of the hepatic duct before they unite — or the cystic duct may run for a distance behind the hepatic and enter its left side.



(d) Accessory bile duct

This is found in eighteen percent of cases. It usually arises from the right lobe of the liver and lies at a deeper plane than the cystic duct at first. The accessory duct may join the right hepatic duct at a relatively high level and be out of danger. It may enter the surgical field because its union is near that of the cystic and common ducts and therefore it is exposed to injury. Finally it may enter the junction of the cystic and common hepatic ducts in a manner as to avoid detection but not injury.

The possibility of bile peritonitis because of failure to recognize injury to a normal or anomalous bile duct, including the occasional accessory cystic duct, as well as the possibility of a ligature

slipping off the cystic duct, is the reason for the almost routine drainage in gall bladder surgery.

A long cystic duct may run parallel to the common duct as mentioned and open directly into the ampulla of Vater. Where there is any doubt about the exact point at which the cystic duct drains into the common duct, the clamp should be taken off the cystic duct and its lumen explored by a fine probe. Complete removal of the cystic duct except where it continues down behind the duodenum is indicated. Small stones may be lodged in a remnant of the cystic duct causing a persistence of symptoms. In the past year there have been at least three cases I recall where secondary operation was necessary because of

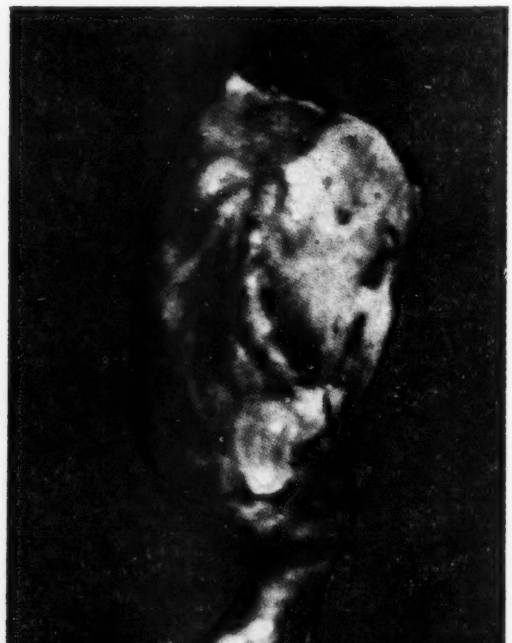


Fig. 3. A case of recurrent biliary colic from dilation of cystic duct which ran parallel to the common duct down behind the duodenum to enter the common biliary passage at ampulla of Vater.

symptoms referable to the biliary tract, which illustrate this anatomical variation. In each case it was expected a stone would be found in the common bile duct. Instead of this condition, however, it was found that the remnant of the cystic duct had become dilated to such a degree in one case (Fig. 3) that it resembled a very small gall bladder. In two cases the portion removed contained biliary sand. Tissue examination revealed chronic inflammatory changes. Relief of symptoms followed removal of these remnants of the cystic duct. The possibility of such a situation was mentioned by Judd (3) in 1928 and within the past year Gray (4) of the Mayo Clinic reemphasized this condition by a review of cases seen by him and his colleagues.

The decision to explore the common bile duct is frequently determined by the patient's history. The classical syndrome of jaundice associated with chills and fever is certainly suggestive of stone in the common bile duct. However, a review of cases of common duct stone actually removed at operation demonstrates that this group of symptoms may be entirely absent. Thus, in a series of two hundred and nineteen cases of this condition reviewed at the Mayo Clinic by Trueman (5) in 1939, it was noted that jaundice was absent in nearly thirtv-five percent of cases. In addition, fever and chills were not a complaint in an even larger proportion of cases. Therefore further criteria must be obtained before a decision to interfere with the bile duct is made. Judgment in this matter can be made only by a close examination of the cystic and common bile ducts at the operation. The normal calibre of these structures is familiar to the experienced operator. Therefore, even if the well-known symptoms of common duct obstructions are absent and if no stone can be palpated in the cystic or common ducts, yet if the lumen of the cystic duct is larger than normal, or if the common duct is dilated, exploration of the latter is indicated. Adherence to this principle will more than compensate in the discovery of unexpected stones for the extra work involved in exploring all ducts where definite or suggestive changes are present even though stones may not always be found.

At this juncture it is well to refer to those clinical states described by Heyd (6) in 1924 which occasionally follow surgery of the biliary tract and when present may terminate in a fatal manner. These types of complication, though rare, are definite and possess rather characteristic symptomatology. Heyd's report and conclusions may be summarized as follows: the most common type is known as "liver death" and is associated with high fever and coma. It may follow the performance of a simple cholecystectomy in a patient whose general condition is apparently satisfactory. Almost immediately after operation there is a continuously rising temperature with rapidly developing lethargy, stupor and coma and death terminates the picture in twenty-four to thirty-

six hours. A second type, which is even less common, ocurs in patients who have had an operation for the relief of obstructive jaundice. In the course of a rather uneventful convalescence associated with a decreasing icterus, they slowly pass into a stupor and coma and the exodus is similar to that occurring in unrelieved obstructive jaundice. A third type, perhaps, is associated with some unrelated kidney pathology for anuria is a factor in the terminal picture. Here a condition much resembling shock with cold clammy skin, gradual reduction in urine output and a rise in the urea nitrogen is present. The temperature and pulse decrease and finally coma sets in followed by death. In this group the patients were not jaundiced before or after surgery. These types may not be specific clinical entities but they serve as examples of what complex bio-chemical problems may be faced by the gall bladder surgeon. Since Heyd wrote, there may not have been much learned about these vague conditions as to cause. However, we have learned that in the presence of a mal-functioning liver special attention to improving its condition is indicated before operation. We know that glucose is the best support of the liver and must be given freely. If administered intravenously, proper time must be taken in order to prevent its escape through the kidneys. We have learned also that glucose can be converted to glycogen in the liver to a greater degree if thiamine chloride (Vitamin B_1) is available. In this way some of the functions of the liver may be restored somewhat to normal.

The hemorrhagic tendency in cases of liver damage associated with jaundice and obstruction, is controlled by the intravenous or oral administration of Vitamin K. It should be administered in sufficient dosages to produce normal clotting properties in the blood as demonstrated by the prothrombin time and its use should be continued after surgery if there is a persistent loss of bile in choledochotomy.

Delay in Surgery Cause of Chief Hazard

It cannot be denied that the most important element in the production of hazards in gall bladder is that of delay. Fine technical surgeons may be developed, great advances in operating-room and anesthesia procedures may now be available and the possibilities for early diagnosis have been improved. The dangers of hemorrhage and pulmonary complications are better understood if not completely mastered. Nevertheless the surgical mortality, outside of a few notable exceptions, remains at a level which is not satisfactory throughout the country. The removal of the ordinary gall bladder is no longer a difficult matter for the average operator. His chief problem is to guard against injury to important structures due to their anomalous positions—a situation with which he is only rarely confronted. It is the gall bladder in which the complications are full blown that provides difficulties which may lead to a fatal outcome. Apart from the acute fulminating case of cholecystitis which goes on to gangrene and perforation, the great dangers in disease of the gall bladder arise from delay and its associated complications. A cholecystectomy for stones, associated with a minimum of pericholecystitis, is a relatively simple and easy operation. A similar procedure in a sick, obese, elderly patient, whose condition is many times worse than it should have been because of delay in obtaining surgical relief, is a major undertaking fraught with serious risk to the patient and great anxiety to the surgeon. **Unwarranted delay in surgical treatment too often means a protracted and incomplete convalescence.**

It is well known that the presence of cholecystitis is a source of great danger to the liver and pancreas. Hepatitis and pancreatitis are commonly found associated with gall bladder disease of long standing. The changes in these organs may be irreversible even though the gall bladder is removed. Persistent symptoms of pain, flatulence and general poor health resulting from their impaired function provide material for criticism of an operation which has failed to produce a satisfactory result. This is unfair criticism. No operation applied at such a late date can possibly eradicate the damage which has taken place through years of illness. The technical difficulties involved may present even the experienced surgeon with an arduous and time consuming operation. There is, furthermore, always the possibility of leaving stones behind, something which may happen to anyone. Such a complicated case is frequently an urgent one. The damage due to a blockage of the common bile duct is well known. Thus time may not be available for proper weight reduction and obesity is still another handicap in the way of smooth and easy removal of the gall bladder. In such cases it may be preferable to be satisfied with a cholecystostomy, permitting the liver to recover from its depressed state by draining bile to the exterior. Bile salts and Vitamin K may be given orally in order to maintain some of the digestive function of the liver and prevent a hemorrhagic tendency. Later, at a more suitable time, further surgery may be performed to remove the common duct obstruction and the gall bladder.

From the surgeon's point of view, efforts must be made to persuade the physician that increased safety in gall bladder disease lies in earlier surgical treatment. Patients should not be allowed to go on having repeated attacks of biliary colic.

Colic is the most definite and positive indication for early surgery. When jaundice intervenes, we are dealing with an extension and complication of gall stone disease. The surgeon must improve his technique in the performance of this operation, develop team work in his operating-room and employ fully the newer as well as the proven and established pre-operative and post-operative procedures.

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Intravenous Procaine

A Survey of 32 Cases Treated Post-Operatively With Procaine (1 gram in 1,000 cc 5% glucose) as an Analgesic

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With a Foreword on Pharmacology of Procaine by

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Intravenous Procaine

The use of cocaine or any of the synthetic local anaesthetics intravenously is warned against in all standard texts on pharmacology. These warnings take their origin from reports of fatalities resulting from 1% or 2% procaine which was injected intravenously by mistake. Such cases showed an almost immediate cardiovascular collapse and death.

The use of dilute solutions (0.1 or 0.2%) of procaine intravenously, and at a slow rate, is an entirely different matter. The rapid detoxification of procaine by the liver allows large amounts of procaine to be used, provided the concentration is not great enough to affect the heart or vascular apparatus. The addition of glucose to the solution allows further margin of safety, as has been shown with cocaine in animal experiments.

The production of anaesthesia by procaine is a progressive action. The fibres are attacked in order of size, the smallest fibres being first affected. Hence, the afferent (small) fibres are affected before the larger efferent fibres. If adequate concentrations are employed, the efferent fibres are also anaesthetized.

In the articles by Gordon and McLachlin referred to below, it is interesting to note that only the injured tissues show any anaesthesia. In other words, plasma leakage at the site of injury allows an escape of procaine into the area in sufficient concentration to produce the desired anaesthesia, while uninjured portions of the body never reach such concentrations. Lundy's text on anaesthesia reports the use of intravenous procaine for pruritus in jaundice: here we are dealing with the most peripheral divisions (and therefore the smallest fibres) of the nerves, and minimal concentrations would act upon these.

One would hesitate to advocate this use of procaine by inexperienced or not-too-careful practitioners. Both the authors referred to below have approached such use in a sensible and scientific manner. Careful tests to rule out hypersensitive individuals are routine with them, and must be routine for all persons using this new method. Amounts as small as .01 to .13 Gm. procaine have caused death in patients with idiosyncrasy toward the drug. Since amounts up to 1.0 Gm. are used in this new method, it is obvious that strict attention must be paid to tests for hypersensitivity.

Clinical research workers in the past 8 years have proven conclusively that procaine can be given intravenously quite safely. Although Bier had used it as early as 1909 below a tourniquet applied to extremities, Lewy (I) was probably the first to inject it deliberately into the general circulation in the treatment of Tinnitus Aurium.

Our interest in the subject was aroused by the recent articles of Gordon (2) and McLachlin (3). Gordon used it in extensive burns and McLachlin in general surgical cases — both with promising results.

McLachlin proposes several theoretical reasons why procaine should prove more valuable as a post-operative analgesic than morphine or other like drugs:

1. It should reduce post-operative pulmonary and vascular complications because the patient is not depressed and can actively co-operate in deep breathing, leg exercises and necessary treatments.

2. Since procaine reaches an equilibrium in all body fluids, its greatest concentration will be in the wound area due to serum seepage and increased vascularity of that reparative process.

3. The post-operative vomiting due to morphine itself would be absent.

Individual sensitivity to procaine is well known. Anyone using procaine, or like solutions locally to any extent will have encountered unpleasant reactions by an occasional patient. Dentists appear to be more aware of these reactions than surgeons. These can be avoided however by injecting 1 cc. of a 1% solution intradermally. In sensitive people two types of reaction occur.

(a) Local—A well marked local reaction in the intradermal wheal.

(b) Systemic—Dyspnea, nervousness and agitation well developed within 10 minutes.

In the series herewith presented, all cases were selected from our routine daily surgical material at St. Boniface Hospital over a period of two months. All cases were equally well prepared over periods ranging from not less than 2 days in minor cases such as appendicitis up to one month in the more serious gastric cases.

Each case was personally interviewed by one of us and classified as a "good", "fair" or "poor" type of patient for a smooth uneventful convalescence. Factors under consideration were general mental reactions to surroundings, willingness to co-operate, fear of impending operation and personality. Generally all cases were subjected to an intradermal skin test and none found positive for systemic reaction. Lundy (4) states that intravenous procaine is contra-indicated in only those showing systemic reactions to the intradermal skin test.

All cases were operated on by one of us (A.C.A.) and as a result the technique used was similar in all cases. Spinal and intra-tracheal ether were used almost exclusively. This was combined with intravenous saline, plasma or whole blood during the operation.

Post-operatively all cases were followed on the ward by one of the authors and careful notes kept as to the time necessary for starting the initial medication or any additional intravenous therapy.

In the first 4 columns of Table I is a record of 18 "good" grade patients, showing age, disease, operative procedure, and type of anaesthetic employed.

Column 6 indicates by its top figure the last hour the final intravenous was given, while the lower figure denotes the total amount of intravenous used. In column 7 is the final score on the efficiency of the analgesic based on a scale of 10.

Table II and III are counterparts of Table I for "fair" and "poor" patients. These need no further explanation.

An examination of Tables I, II, III reveals that the three series consisted of about the same number of major cases and are considered well balanced. Table IV is of interest as it is a tabulation of the average age, disease, hours of administration and result in the three groups.

Discussion

In this series of cases an honest endeavour was made, pre-operatively, to estimate each patient's probably psychological response to post-operative suffering. It would appear that pre-operative judgment was sustained.

In our first series we encountered one reaction in Mrs. H. following her second injection in her second operation. Her previous operation (Case 1) was uneventful and moderately successful making a score of 8. Score of 2 for her is probably too low.

In Table II, Case I, we encountered our only severe reaction. Case I was a graduate nurse with a large hydronephrosis for which we did a very extensive ureteropyeloplasty together with a partial pelvis resection. She was very apprehensive pre-operatively, knew all the answers and was controlled by frequent doses of morphine. She probably belonged to Group III.

In all three series we had only one death (Case 7, Table II). This was a woman of 62 with complete pyloric obstruction. She had lost 40 lbs. in weight and had one month pre-operative preparation. During and immediately following the operation she had 1,000 ccs Blood but failed steadily in spite of further plasma and blood transfusions. She died at the 60th hour. No post-mortem could be obtained.

In Table III, Case 2 probably deserved a better pre-operative rating. She could not speak English and as a result it was difficult to judge her mental reaction to hospital environment. Case 7 in this section also deserves special note. We had previously removed the head of his pancreas, pyloric end of stomach and duodenum for a carcinoma of the Ampulla of Vater. He made an uneventful recovery except for the complication of pancreatic

fistula. During his long stay on the ward he became very argumentative and unco-operative but after operation was exceedingly good. Possibly he should have been in Group I.

In all our series one very definite fact was noted. Where special nurses were employed, failures were more common. The necessary co-operation was definitely more difficult to obtain as these nurses preferred morphine and its rapid results more than the slower effect of procaine. Moreover, they were prone to interpret movement on the part of the patient as restlessness and discomfort. This alertness and ability to move about are the very essence of a good result with procaine. It contrasts favourably with the lethargic, stuporous reaction of a patient under morphine.

Summary

1. A tabulated record of 32 patients in which procaine was used intravenously as a post-operative analgesic is presented.

2. Careful selection of patients is recommended if the surgeon expects to get satisfactory post-operative analgesic results.

3. In a group of carefully selected major cases, a score of 7.3 on a scale of 10 was recorded. This compared with 4.1 and 2.5 in poorer risks.

4. Reactions are uncommon but the patient must be carefully watched. This is especially important during the first 10 or 15 minutes following starting the intravenous procaine solution.

5. Co-operation from the nursing staff is essential and movements and alertness of the patient must not be interpreted as pain.

6. One death occurred in the series following a preliminary gastro-enterostomy in an old woman with complete pyloric obstruction due to carcinoma.

7. One post-operative chest complication occurred in Group III. Morphine was used from the 3rd hour, post-operatively.

8. No vascular accidents occurred.

9. Intravenous procaine post-operatively for the control of pain is an excellent and safe substitute for morphine.

TABLE I

Date	Name	Age	Disease	Operation	Anaesth.	Type	Amt. *	Result †	
13-4-45	Mrs. H.	56	Carcinoma Stomach	Resection (Ogilvie)	Spinal	Good	44/2800	8	
16-4-45	Mrs. C.	55	Recurrent I. Hernia	Fascia Lata. Repair	Spinal	Good	34/3100	9	
18-4-45	Miss B.	18	Gall Stones	Cholecystectomy C.D.	Ether	Good	Stat/1000	0	1000 cc given at once. No effect. Morph. (naus. & vom.) Demerol O.K.
19-4-45	Mr. S.	69	Carcinoma Stomach	Gastro-enterostomy	Spinal	Good	6/1000	10	
22-4-45	Mr. S.	62	Carcinoma Parotid	Resection &Block dissection	Local	Good	19/3000	8	
23-4-45	Mr. J.	35	Duodenal Ulcer	Gastric Resection	Spinal	Good	26/3000	10	
30-4-45	Mrs. S.	25	Appendix	Appendectomy	Spinal	Good	2/1000	10	
4-5-45	Mrs. T.	42	Hypertension	Smithwick Resection	Ether	Good	13/2000	3	One dose of Morphine required.
12-5-45	Mrs. S.	63	Umb. Hernia Carc. Col.	Double barrel Colostomy Hernia repair	Spinal	Good	36/3000	8	
14-5-45	Mrs. T.	48	Gall Stones	Cholecystectomy C.D.	Spinal	Good	26/3000	3	Pain not completely relieved, Morph. required 5th hour.
17-5-45	Mrs. H.	56	Carcinoma Caecum	Ileo-Trans Colostomy	Ether	Good	37/2000	8	Mild Reaction.
29-5-45	Mr. F.	64	Carcinoma Stomach	Gastro Enterostomy	Spinal	Good	30/3000	10	
4-6-45	Mr. C.	26	Appendix	Appendectomy	Spinal	Good	4/1600	10	
4-6-45	Mr. T.	30	Appendix	Appendectomy Abd. Expl.	Spinal	Good	2/1000	10	
8-6-45	Mrs. H.	56	Carcinoma Caecum	Hemi-Colectomy	Ether	Good	9/2000	2	Reaction with 2nd 1000 cc Morphine substituted.

TABLE I (Continued)

Date	Name	Age	Disease	Operation	Anaesth.	Type	Amt. *	Result †	
12-6-45	Mrs. T.	42	Hypertension	Smithwick Resection	Ether	Good	26/4000	7	1/4 Morph. given at 8th hour.
12-6-45	Mr. F.	64	Carcinoma Stomach	Gastric Resection	Spinal	Good	24/3000	10	
12-6-45	Mrs. H.	46	Medial Meniscus	Removed	Spinal	Good	35/2000	7	1/6 Morph. given by error.

* 44/2800 = upper / lower Number represents number of hours sedative required up to last administration.
Number represents cc's given, 1. grm. Procaine per 1000 cc.

† Excellent P.O. anaesthesia 10. all others graded as to our idea of the fraction of 10.

TABLE II

Date	Name	Age	Disease	Operation	Anaesth.	Type	Amt. *	Result †	
16-4-45	Mr. B.	49	R.I. Hernia	Facia Lata Repair	Spinal	Fair	10/1000	0	Morph. ¼ on return by error. 10 hrs.later–Procaine started ½ hr. later. Nausea-sweating, pallor, drowsiness, mild chills, rapid pulse, temp. 100°. Discont'd.
26-4-45	Mrs. T.	26	Gall Stones Pancreatitis	Cholecystectomy C.D.	Spinal	Fair	6/2000	4	Required Morph. 2nd intravenous–no relief.
9-5-45	Mrs. S.	25	Nodular Toxic Goitre	Thyroidectomy	Gas	Fair	44/3000	9	
11-5-45	Mrs. H.	62	Carcinoma Bladder	Supra-pubic Fulguration	Spinal	Fair	25/1800	4	Relief–only fair. Morph.required ofter 27 hours.
14-5-45	Mr. G.	49	Inguinal & Epig. Hernia	Fascial Repair	Ether	Fair	3/100	10	
17-5-45	Mrs. B.	27	Hydronephrosis	Uretero-pyeloplasty	Spinal	Fair	12/2000	2	Morphine required at 14th hour. Nurse very apprehensive.
30-5-45	Mrs. S.	62	Carcinoma Stomach	Gastro-enterostomy	Spinal	Fair	1/1000	0	Morphine required at 3rd hr. and thereafter. Died 60th hour.

TABLE III

Date	Name	Age	Disease	Operation	Anaesth.	Type	Amt. *	Result †	
18-4-45	Mr. L.	45	Gastric Ulcer	Gastric Resection	Spinal	Poor	2/1000	0	Not much relief. Morph. from 4th hr.
19-4-45	Mrs. H.	45	Carcinoma Caecum	Ileo-Transverse Colostomy	Spinal	Poor	38/2000	8	
12-5-45	Mr. M.	68	Gastric Ulcer	Gastro-enterostomy	Local	Poor	1/1600	0	Morph. gr. ¼ p.r.n. following 3rd hour.
18-5-45	Mr. S.	35	Gastric Carcinoma	Gastro-enterostomy	Local	Poor	2/1000	0	No effect. Morph. gr. ¼ p.r.n.
25-5-45	Miss P.	43	Hypertension	Smithwick Resection	Ether	Poor	9/2000	0	Very poor results. Morph. after 8th hour.
29-5-45	Mr. D.	48	Appendix	Appendectomy	Spinal	Poor	2/1000	0	Mild delirium. Morph. following.
29-5-45	Mr. W.	62	Pancreatic Sinus	Exploration	Local	Poor	2/1000	10	

TABLE IV

	Good	Fair	Poor
Age	47.6	40.6	49.4
Dose	2305 cc	1557 cc	1285 cc
Hours of Administration	20.7	14.4	6.9
Result	7.38	4.1	2.5

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The Management of Rheumatic Heart Disease

F. Gerard Allison, M.D., M.R.C.P. (London)

In years past rheumatic heart disease has been the principal cause of death among children of school age; but recent advances in our knowledge of this condition have brought great changes in its management. The outlook for both the threatened and the sick is now much better. The present concept is that rheumatic fever is an antigen-antibody-precipitin reaction, appearing about two to four weeks after beta haemolytic streptococcal infection, and when the latter has disappeared. Coburn (1) demonstrated a precipitinogen in the serum prior to the onset of acute rheumatism. Feasby (2) reports that 4% of soldiers with streptococcal disease of the upper respiratory tract respond with a polyarthritis, and of these 24% have cardiac complications. The tendency to this response is familial, and a person with a rheumatic family history should not marry into another rheumatic family. A person who has once shown this response is apt to do so again with subsequent beta haemolytic streptococcal infection. Repeated attacks of rheumatic fever, and to a lesser extent chorea, greatly increase the incidence of severe cardiac damage. The tendency to repeated attacks is greater in children, particularly in the first five years after the first attack. Streptococcal infections are less common in hot weather, but the theory of the freedom of hot countries like Puerto Rico from streptococci and rheumatic fever was severely shaken by Suarez' (3) report of 17% rheumatic heart disease in 1,081 cardiac cases. (New York incidence 32%.) Post-mortems in 128 cardiac deaths showed rheumatic heart disease in 20%. The routine removal of tonsils does not protect a child from streptococcal pharyngitis and subsequent rheumatic fever. Tonsillectomized children contracting poliomyelitis are said to be more likely to get the bulbar form of this disease.

Prevention of Rheumatic Fever

The prevention of subsequent attacks of rheumatic fever now rests on a firm foundation of experience.

Thomas & France (4) and Coburn & Moore (5) reported the prevention of beta haemolytic streptococcus infection and rheumatic relapses with the administration of small daily doses of sulfanilamide to rheumatic individuals. The report of Dodge et al (6) is typical of the results found by many others. Eighty-eight children and adolescents were given from 15 to 30 grs. sulfanilamide daily throughout the winter and spring months for a total of 181 patient-seasons. 2.7% developed haemolytic streptococcal infections and 1.1% developed rheumatic relapses. Of the controls, followed for 138 patient-seasons 39% developed haemolytic streptococcal infections and 19% had rheumatic relapses. None of the cases reported in this series had the drug stopped permanently because of toxic reactions. Only agranulocytosis is feared. Among 639 patient-seasons reported by various authors, there was one death from agranulocytosis. This complication should be less dreaded now when penicillin is available to combat the throat infection. (7)

The results of our sulfanimide prophylaxis of recurring rheumatic infection at the Children's Hospital at Winnipeg are being reported by Dr. George Shapera.

In the tremendous experiment in the U.S. Navy (8) where a quarter of a million men were given one sulfadiazine tablet twice daily, with another quarter of a million as controls, the treated men had one-fourteenth as much acute rheumatic fever as the controls. Streptococci infections were reduced 85%, scarlet fever and meningococcus meningitis dropped to zero and pneumonia dropped 50%.

A patient with a past history of rheumatic fever who develops a febrile sore throat due to haemolytic streptococci may prevent the damaging aftermath by taking 75 grains of salicylate daily in the form of aspirin or sodium salicylate for a month, according to Coburn & Moore (9). Forty-six of forty-seven treated cases had no sequelae. Fifty-seven of 139 controls had a rheumatic relapse. No antibody and therefore no precipitin occurred in the serum of the treated cases.

That diet may be a factor in prevention of rheumatic fever is suggested by Coburn and Moore (10). Poor rheumatic children have diets deficient in protein, vitamin A and riboflavin. 13 of 14 rheumatic children from weathy homes had intolerance to milk or eggs. Adding 3 eggs per day to the diet of a series of rheumatic children reduced the incidence of recurring attacks.

Treatment of Rheumatic Fever

The treatment of acute rheumatic fever is not as successful as its prevention. Coburn (11) reintroduced massive doses of salicylates (150 grs. per day) describing a method of estimation of the blood salicylate level and an intravenous technique for achieving a high blood level in the early stages of treatment. His results showed that 19 of 43 young adults taking only 45 to 90 grains sod. salicylate daily had rheumatic activity continue for an average of 9 weeks, and rheumatic heart disease developed in 16. All of 19 patients receiving 150 grains daily

had normal sedimentation rates in from 15 - 30 days and no cardiac signs or symptoms. Coburn gives no bicarbonate until the end of the first week of treatment and then he gives .6gm, four hourly. Enteric-coated salicylate tablets diminish gastric irritation. He recommends a blood salicylate level of at least 35mg%. This was most encouraging, but the experience of others was not so favorable. Keith & Ross (12) tried 70 cases on 10 to 13 gm. salicylates daily, and 33 control cases on low dosage, The salicylate cases had normal sedimentation rates in an average of 4 weeks and the controls in an average of 4½ weeks. About 10% in each group developed heart disease. Keith & Ross gave sod. bicarb. in equal amounts to the salicylate. Their average blood level for the 10gm. group taken nine hours after the last dose was 27 mg. %. If no bicarbonate is given with the heavy doses of salicylates in a few cases severe acidosis with vomiting, hyperpnea, hallucination, drowsiness and even coma may develop. If equal amounts of bicarbonate are given the blood salicylate level falls below the therapeutic level of 35%. (13) A smaller dose of bicarbonate may be given in the attempt to avoid this dilemma, or Coburn's technique may be followed, watching for acidosis and stopping salicylates on its appearance. Sodium lactate will help to neutralize the acidosis. Purpura sometimes develops from salicylates. It is associated with hypoprothrombinaemia and helped by injections of vitamin K. (14).

The question of the efficacy of massive salicylate dosage in the presence of an established acute carditis has not yet been determined. Penicillin is ineffectual.

Coburn keeps his patients on salicylates until the sedimentation rate has been normal for two weeks. Then medication is stopped and the sedimentation rate is repeated one week later. If still normal the patient is allowed up. The sedimentation rate is the most useful single test for gauging rheumatic activity, providing congestive failure, liver disease, diabetes, uraemia, syphilis, pregnancy, or other types of infection are not present to falsify the reading. The sleeping pulse rate is also a useful guide. It should normally be below 80 in childhood and below 70 in adults, when taken between 1 a.m. and 5 a.m.

Treatment of Congestive Failure

Whether active carditis is present or not, rest and digitalis are indicated in any patient with cardiac dyspnoea. Walsh & Sprague (15) give 1½ gr. orally, 3 or 4 times daily in children until 1½ gr. has been given for each 10 lbs. body weight. A maintenance dose of 1 or 1½ gr. daily is then given. Auricular fibrillation is a common sign of digitalis toxicity in children. They also give theobromine calcium salicylate (theocalcin) gr. i t.i.d. for its diuretic effect, only resorting to salyrgan if these measures fail. Adults may be digitalized by 3 gr. t.i.d. for 4 doses, followed by gr. i t.i.d. until nausea or extra systoles appear. Dosage is stopped until these disappear, then gr. i b.d. is tried as a maintenance dose. No sulfonamides are given while carditis and congestive failure are present.

Prevention of Subacute Bacterial Endocarditis

A fairly high percentage of cases of subacute bacterial endocarditis are initiated by the streptococcal bacteremia which accompanies tooth extraction. Harmless in persons with normal hearts, this transient phenomenon can be deadly in patients with valvular heart disease or congenital heart disease. The writer has seen six such cases in the past four years, the first four cases being consecutive. Every patient with rheumatic or congenital heart disease should be warned of this danger and told to attend a dentist thrice yearly so that extractions may not be necessary. If an extraction is essential, preliminary gum treatment with iodine may be followed by 3 grams of intravenous soludagenan and 30,000 units of penicillin shortly before extraction. Then 15,000 units of penicillin may be given two hourly for the rest of the day. In the past two years some cases of subacute bacterial endocarditis have been reported to recover after 300,000 units of penicillin daily for weeks.

Routine Advice to Inactive Cases of Rheumatic Heart Disease

1. Avoid exertion causing undue shortness of breath or palpitation. If these symptoms suddenly get worse, call the doctor.

2. Avoid getting wet and chilled. Go to bed if a chest cold appears.

3. If a sore throat and temperature develop, take 3 Aspirin tablets 5 times daily for a month.

4. See the dentist thrice yearly so that tooth extraction may be avoided. If an extraction is essential consult the doctor first.

5. Rheumatic children should take 5 grains of sulfanilamide after each meal excepting in hot weather.

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Manitoba Medical Association

(Canadian Medical Association, Manitoba Division)

Tentative Annual Meeting Programme

* * *

Monday, September 24th

Evening

6.30 President's Dinner to the Retiring Executive, Vice Regal Suite, Royal Alexandra Hotel.

8.00 Executive Meeting following dinner.

Tuesday, September 25th

Morning

8.30 Registration.

9.30 Symposium on Penicillin:

Medical Aspects,
Wing Commander Lennox G. Bell.

Venereal Disease,
Dr. K. J. Backman.

Methods of Estimation of Blood Penicillin,
Dr. D. W. Penner.

10.15 Intermission: Visit the Commercial Exhibits.

10.30 Nomenclature of Acute Pulmonary Infections,
Col. J. D. Adamson, R.C.A.M.C.

11.15 Recognition of Heart Disease,
Dr. John Hepburn.

12.15 Luncheon: Royal Alexandra Hotel.
Guest Speaker: To be announced.

Afternoon

Winnipeg General Hospital: Clinical Programme.

Wednesday, September 26th

Morning

9.00 Rh Factor,
Dr. Philip Levine and Dr. Bruce Chown.

9.40 Military Surgery,
Colonel C. W. Clark.

10.20 Intermission: Visit the Commercial Exhibits.

10.30 Infantile Eczema,
Dr. A. R. Birt.

11.15 Uterine Hemorrhage,
Dr. W. G. Cosbie.

12.15 Luncheon: Royal Alexandra Hotel.
Guest Speaker: Dr. Leon Gerin-Lajoie.

Afternoon

St. Boniface Hospital: Clinical Programme.

Evening

6.30 Dinner: Annual Business Meeting and Election of Officers. Royal Alexandra Hotel.

« « MENTAL STIMULATION AND READY KNOWLEDGE » »

Winnipeg, September 25, 26, 27

Headquarters First Floor

Royal Alexandra Hotel

* * *

Thursday, September 27th

Morning

9.00 Ophthalmological Considerations in General Practice,
Dr. A. Hollenberg.

9.40 Recent Developments in Treatment of Congenital Heart Disease,
Dr. H. Medovy.

10.20 Intermission: Visit the Commercial Exhibits.

10.30 The Uses and Abuses of Endocrine Therapy,
Dr. Elinor F. E. Black.

11.15 Pitfal's in Relation to Hernial Repair,
Dr. H. G. Pretty.

12.15 Luncheon: Royal Alexandra Hotel.
Guest Speaker: Dr. A. E. Archer, "The Challenge to Medicine."

Annual Golf Tournament

1.30 Southwood Country Club. The Annual Golf Tournament for the Manitoba Medical Association Cup and other Trophies will be well worth shooting for. Send in your entry or register at the registration desk at the hotel. Foursomes will be drawn by the golf committee.

Visiting Speakers

Dr. Leon Gerin-Lajoie, Montreal.
Dr. W. G. Cosbie, Toronto.
Dr. John Hepburn, Toronto.
Dr. H. G. Pretty, Montreal.
Dr. A. E. Archer, Lamont, Alberta.
Dr. T. C. Routley, Toronto.

Commercial Exhibits

This year's Commercial Exhibit display will be the largest, most varied and interesting we have been able to assemble heretofore. Twenty-two of Canada's leading Pharmaceutical, Biological, Surgical Equipment and X-Ray manufacturers will be represented by officials and attendants who will gladly impart detailed information on their particular products.

The Coca-Cola Co. have once again generously volunteered to quench little or large thirsts of all members — Gratis.

Royal Alexandra Hotel Rates

Headquarters for the Annual Meeting are at the Royal Alexandra Hotel. Every comfort and courtesy that modern facilities and efficient personnel can give, will be provided at reasonable rates to help make the Convention an outstanding success. Arrange for your reservations early by writing direct to the Hotel or to the Association.

Rates: Single with bath, $3.50 up. Double with bath, $5.00 up.

Ladies' Programme

There will be plenty of private social activities, so that no one should hesitate about accompanying their husbands for fear of lack of entertainment.

There will be representatives of the Ladies' Committee at the registration desk. Please leave your name, city address and telephone number. The Ladies' Committee will see that you are kept in touch with all its activities.

« « WILL BE THE REWARD OF ALL THOSE ATTENDING » »

Something Old

The Great Plague

Aug. 30th. Abroad, and met with Hadley, our clerke, who, upon my asking how the plague goes, told me it encreases much, and much in our parish; for, says he, there died nine this week, though I have returned but six; which is a very ill practice, and makes me think it is so in other places; and therefore the plague much greater than people take it to be. I went forth, and walked towards Moorefields to see, God forgive my presumption! whether I could see any dead corpse going to the grave; but, as God would have it, did not. But, Lord! how every body's looks, and discourse in the street, is of death, and nothing else; and few people going up and down, that the town is like a place distressed and forsaken.

31st. Up: and, after putting several things in order to my removal, to Woolwich; the plague having a great encrease this week, beyond all expectation, of almost 2,000, making the general Bill 7,000, odd 100; and the plague above 6,000. Thus this month ends with great sadness upon the publick, through the greatness of the plague everywhere through the kingdom almost. Every day sadder and sadder news of it encrease. In the City died this week 7,496, and of them 6,102 of the plague. But it is feared that the true number of the dead this week is near 10,000; partly from the poor that cannot be taken notice of, through the greatness of the number, and partly from the Quakers and others that will not have any bell ring for them.

Sept. 3rd. (Lord's day) Up, and put on my coloured silk suit very fine, and my new periwigg, bought a good while since, but durst not wear, because the plague was in Westminster when I bought it; and it is a wonder what will be the fashion after the plague is done, as to periwiggs, for nobody will dare to buy any haire, for fear of the infection, that it had been cut off the heads of people dead of the plague. My Lord Brouncker, Sir J. Minnes, and I, up to the Vestry at the desire of the Justices of the Peace, in order to the doing something for the keeping of the plague from growing; but, Lord! to consider the madness of people of the town, who will, because they are forbid, come in crowds along with the dead corpses to see them buried; but we agreed on some orders for the prevention thereof. Among other stories, one was very passionate, methought, of a complaint brought against a man in the town, for taking a child from London from an infected house. Alderman Hooker told us it was the child of a very able citizen in Gracious Street,

Continued on Page 405

Something New

When breathing stops during anaesthesia the method of **artificial respiration** described by Lt.-Col. Viswanathan of the Royal Indian Army Medical Corps is of most value. The operator stands at the patient's head. His fingers are hooked under and around the rib margin on each side with the middle finger in the mid axillary line. The hands pull steadily upward and outward for 3 seconds. Then the fingers are extended and pressure is exerted downward and inward upon the chest and adjacent abdomen. A rate of 12 to 15 excursions per minute is maintained. At that rate the respiratory excharge per minute is over 7,000 c.c. Actual measurement has shown that the volume of air excharged is four times greater than in the method of Schafer and twice as great as in the method of Sylvester.

♦

Congenital anomalies are exceedingly likely to occur when the mother contracts rubella. The first two months of intrauterine life see the development of the crystalline lens and the interventricular septum, and the foetus infected then is always born with some malformation most often cataract, patent ductus arteriosus or patent interventricular septum. Pregnant women should be safeguarded from exposure and, if the disease is present, should receive pooled serum from adult convalescents.

♦

Thiouracil in daily doses of 0.1 to 0.6 gramme has given relief in cases of **angina pectoris** according to Raab of Burlington. This method of treatment is the logical successor to treatment by thyroidectomy.

♦

Sudden severe epigastric pain, vomiting, shock, distention and great tenderness in the upper left abdomen indicate **acute pancreatitis.** It is important that the haemorrhagic form of the condition be differentiated from the less serious inflammatory oedema. In the latter the serum amylose level rises abruptly and then falls. In haemorrhagic pancreatitis the rise is less marked but is prolonged. In oedematous pancreatitis operation should be postponed until the inflammatory reaction has subsided. In the haemorrhagic form prompt operation is indicated. Oedematous pancreatitis tends to recur in a chronic form and, except in the first attack, there will be a history of previous similar experiences. Usually recovery occurs in 5 days. Differential diagnosis includes coronary disease, biliary tract disease, mesenterir thrombosis, tabetic crises, and acute intestinal obstruction. J. Morton: Surgery: 17: 475.

Editorial

J. C. Hossack, M.D., C.M. (Man.), Editor
R. B. Mitchell, B.A., M.D., C.M. (Man.), F.R.C.P. (C), Associate Editor

The Convention

This is convention month and we hope that very many of you will find opportunity to attend. The programme you will find elsewhere. If you attend you will not likely miss the sessions but please spend a little time with the exhibitors. Remember that we are in a sense their guests for just as they finance our Review so also do they bear the cost of our convention. One good turn deserves another so let us view their displays and favour them whenever they can supply our own or our patients' needs.

♦

Help For the Deaf

To be born blind is a calamity, to be born deaf is a disaster; for while public sympathy is readily extended to those who cannot see, the deaf are met with indifference or avoided as a nuisance. The blind man, to be sure, lives in a world of blackness but his is not a lonely world. His ears, his voice and his sense of touch keep him in close contact with all about him. But the person who cannot hear is completely isolated. Unless he is trained objects have no names and the printed word no meaning. Unless he is trained he has no contact with any of the multitude that throng his world of silence. Unless he is trained he can express only his simplest needs and then only in the primitive language of gesture. The records show that many of the deaf are capable of greatness and that most of them can learn to live useful lives. But they must be trained and such training is surely the prerogative of every deaf child.

The Manitoba Educational Committee is asking us to help them to discover all the deaf children in the Province. They believe that close upon a hundred such children exist among us. Of these more than half are being deprived of that education which would make them happy, useful, self-supporting, and might, in some cases, lead to the discovery of brilliance. Please send the names of deaf children you know to Mr. Locke, whose address you will find at the end of his appeal. Only the modesty of Mr. Peikoff (co-author of the appeal) prevented him from citing his own case. Mr. Peikoff, who is President of the Canadian Association of the Deaf, is a B.A. He studied journalism in a school where he was the only deaf student, yet in spite of his handicap, he topped a class of 250 students.

Dr. A. L. Shubin

Every month our pages are saddened by the news of another death among our colleagues. Most recent of our losses is Dr. A. L. Shubin, who died on August 13th at the age of 51, from coronary occlusion. The distress which he had so often seen and so often sought to relieve in others he was at the end compelled to endure himself. He had always been interested in heart disease, had done much post-graduate work in the subject and had achieved a well deserved reputation as a cardiologist. It is a striking truth that many doctors suffer and die from those ailments in the knowledge and treatment of which they have excelled, and so it was with Dr Shubin. He was most appreciated by those who knew him best. Kindly, sympathetic, sincere and generous, he held a high place in the regard of his patients and of his fellow practitioners. We are the poorer by his loss. He was an active contributor to this Review. He reported diligently, faithfully and well the Luncheon Programmes at the Victoria and St. Joseph's Hospitals. In addition, he had contributed useful articles to our pages. The sympathy of the profession goes forth to his widow, his son and his three young daughters. We cannot lessen their grief, but it may help them to know that we share it; nor can the tears of mourning drown their pride in the good name he left them as a heritage and a comfort.

J. C. H.

♦

Brandon and District Medical Society

At their Annual Meeting, the following officers were elected for the ensuing year: Honorary President, Dr. W. J. Elliott, Brandon; President, Dr. J. R. Martin, Neepawa; Vice-President, Dr. K. J. Clark, Brandon; Sec.-Treasurer, Dr. E. J. Skafel, Brandon. Executive: Dr. Stuart Schultz, Brandon; Dr. F. K. Purdie, Griswold; Dr. W. S. Peters, Brandon.

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Annual Meeting Manitoba Health Officers' Association

Winnipeg, Monday, Sept. 24th, at 9 a.m.

A programme arranged by the Department of Health, Province of Manitoba, will deal with Public Health matters. A complete programme will be mailed to all Health Officers.

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Despair of all recovery spoils longevity,
And makes men's miseries of alarming brevity.
—Byron.

Manitoba Deaf Children Face Anxious Moments

Lorne W. Locke, B.A., and David Peikoff, B.A.
Manitoba Educational Committee of the Deaf

The danger of the Manitoba School for the Deaf being permanently closed is becoming a matter of grave concern to the deaf and parents of deaf children. Strenuous efforts are being put forth by the Manitoba Educational Committee of the Western Canada Association of the Deaf and public-spirited citizens of the province to induce the Government of Manitoba to re-establish this unique school.

Prior to being a war casualty, the Manitoba School had built up a commanding prestige second to none in Canada. It was the cradle of education of the deaf of the four western provinces since 1890, and continued as the fountainhead of their learning process until British Columbia set up its own residential school in 1920 and Saskatchewan followed suit in 1931. The Manitoba School was recognized throughout the profession as one of the ten best schools on this continent.

It was not until Dr. H. J. McDermid, a member of the Manitoba Medical Society, abandoned his promising medical practice to adopt as his life work the upbuilding of the Manitoba School for the Deaf that it climbed into the celebrity class. Through his powers of persuasion, backed by rugged honesty and record of faithful performance and skilful administration, the late Dr. McDermid won Dr. Thornton, Minister of Education, over to a plan to tour all progressive American schools for the deaf in company with the Provincial architect, Mr. Acheson.

Plans were subsequently drawn up to erect the most scientifically designed plant in Canada for the purpose of teaching the deaf. The windows and lighting system of the Manitoba School were designed to give extra light because all communication is by sight. The rooms were small because only a few pupils could be taught at once.

Vocational training had a place in this special set-up. Hospitalization facilities were not overlooked either. A medical man himself, Dr. McDermid naturally paid special attention to food, health and hygiene. Safety measures were taken by making the building of fully fire resistant construction, a matter of the utmost importance since deaf children can hear no fire alarm.

Ever since the first permanent public residential school on the North American continent was established in 1817, the growth in the number and quality of similar schools has been steady until today there are in the United States 64 institutions with an annual enrollment of 15,000 deaf pupils. New York has seven completely equipped state schools for the deaf. Pennsylvania taxpayers cheerfully finance three. California, long a leader in this field, with its world-renowned state school in Berkeley, now plans to build a second residential school in the southern part of the State to meet the growing deaf population.

American states less populous than Manitoba have managed to operate up-to-date schools for the education of their deaf children. Manitoba has a population of 750,000, while Montana, North Dakota, South Dakota, Wyoming, New Mexico, Utah, Arizona and Idaho, with populations far below that of Manitoba, all have their own state schools for the deaf.

According to Dr. Elwood A. Stevenson, eminent American educator, there is one deaf person to every 2,300 hearing individuals in the United States. One-third of these are of school age.

We find from "The Report Relating to Children With Defective Hearing," published by the Board of Education of Great Britain that there is a ratio of from .7 to 1 deaf child of school age to every 1,000 hearing children in the public schools in the British Isles.

When the Saskatchewan School for the Deaf opened its doors in 1931 the attendance mark was double the number previously sent to Manitoba. As there is no school in Manitoba at present our deaf children must go to Saskatchewan.

There were 92 Manitoba pupils at the provincial school when it was closed in 1940. Today the Department of Education has only 47 deaf pupils enrolled. Many pupils have refused to return to Saskatoon, and there is an age restriction on the pupils in attendance there which bars the attendance of a number of deaf pupils from Manitoba.

People will not send their children to a school that is far from home and especially one out of the province. Under the Manitoba School for the Deaf Act, passed in 1924, parents can be compelled to send their children to the Manitoba School for the Deaf but not to an outside school. Judging from the aforementioned statistics there should be 40 to 50 more deaf pupils attending school in Manitoba today who stand in dire need of training. With that training they can become useful citizens. Instead, a good number of them are allowed to grow up as illiterates and to become a charge upon society. In many instances the province will have to support them all their lives.

The high standard of education attainable at the Manitoba School for the Deaf prior to 1940 may be gauged by the fact that more of its graduates have entered Gallaudet College, Washington, D.C. (the only seat of higher learning for the deaf in the world) than from any other Canadian school. A few outstanding examples may be cited here:

After finishing his elementary education at the Manitoba School for the Deaf, Archibald Wright received his B.A. degree from Gallaudet College and later pursued postgraduate studies in chemistry at the University of Manitoba. For the past 25 years he has been a valued analyst in the Department of Health at Ottawa. Milwyn Williams, another Manitoba graduate, is drawing a fancy salary as one of the copy editors with the Toronto Daily Star. Howard Kinnear, a Souris boy now resident of Winnipeg, is carving a notable career as a radio expert and sound engineer.

In the realm of sports, two of our deaf school boys have won widespread fame. Walter Molisky starred for his Regina Victoria Hockey Club which won the Allan Cup, while John Ulrich was a main cog in Lester Patrick's Stanley Cup winning team from Victoria, B.C.

Some of the distinguished figures in the silent world were one Thomas S. Marr, architect of Nashville, Tenn., product of a residential school whose new plant was rebuilt from his creative designs. Mr. Marr was awarded the contract to build one of the four regional United States Post Offices in the South valued at $1,200,000. Mr. Marr was also credited with several other million dollar projects, both private and public. Many of his architectural masterpieces have become subjects of study in the universities of the South.

Douglas S. Tilden's sculptural works dot public parks of San Francisco; his deafness was no barrier to his creative genius in this line. Cadwallader Washburn, deaf from infancy, a residential school product, is heralded in the world of art as the greatest dry point etcher, his paintings finding their way into many celebrated galleries.

There are 500 deaf teachers of the deaf rendering invaluable services in schools for the deaf on this continent, several attaining the rank of principalships. Dr. J. S. Long, a deaf school principal, was also an author and poet of note. W. W. Beadell and Wells L. Hill made their mark as daily newspaper publishers, while numerous deaf college-breds are excelling as bacteriologists, engineers, cartoonists, business men, as well as in other exacting professional lines. Those with less spectacular but equally creditable successes are proving their worth as linotype operators, pressmen, postal clerks, janitors, cabinet-makers, machinists, clothing operators, typists, copy clerks, librarians, beauticians, and general factory workers.

Enough has been said to prove the potentialities of deaf people. Given a full-rounded education plus vocational training they are capable of giving a good acount of themselves in whatever calling they may cast their lot. Their usefulness and success, however, depends upon their getting the adequate education which is their birthright.

It is the desire of the Manitoba Educational Committee to locate every single deaf child in the province and to convince our authorities that we have a sufficiently large enrollment record to warrant the re-opening of the Manitoba School for the Deaf.

Toward the achievement of this goal help is being sought from every conceivable source, the medical fraternity included. The appeal is being sent out by the Manitoba Educational Committee of the Western Canada Association of the Deaf to all practicing physicians to report cases of deafness to the chairman, Mr. Lorne W. Locke, 681 Jubilee Ave., Winnipeg, Man.

♦

A physician can sometimes parry the scythe of death, but has no power over the sand in the hourglass—Hester Lynch Piozzi.

SAFE • Four years of intensive clinical research, with more than 1,400 published cases, have established Demerol analgesia in labor as a safe procedure. Demerol analgesia is harmless to mother and baby. It does not weaken uterine contractions or lengthen labor. There are no post-partum complications due to the drug.

SIMPLE AND EFFECTIVE • Demerol hydrochloride is administered orally or by intramuscular injection. Average dose: 100 mg., when the pains become regular, repeated three or four times at intervals of from 1 to 4 hours. In analgesic power Demerol hydrochloride ranks between morphine and codeine; it also has a spasmolytic effect comparable with that of atropine, as well as a sedative action. It may also be used in conjunction with scopolamine or barbiturates for amnesia.

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Personal Notes and Social News

♦

Dr. and Mrs. J. C. Hossack, 820 North Drive, Fort Garry, announce the engagement of their eldest daughter, Dorothea, Ambulance Sister, overseas, to Warrant Officer L. W. R. Crocker, R.A.F., eldest son of Mr. and Mrs. L. Crocker, of London, Eng. The wedding to take place in September in England.

♦

Captain G. H. Evoy, R.C.A.M.C., was married on August 14th in the Hotel de Ville by the Burgomaster of Knock-Sur-Mer, Belgium, to Mademoiselle Louise Herbertine Speetjens of Le Zoute. After the wedding Captain and Mrs. Evoy left by train for Brussels.

♦

Captain Donald Whyte, now serving with the Canadian General Hospital in England, has been promoted to the rank of Major.

♦

Surgeon Commander C. W. MacCharles, R.C.N.V.R., formerly secretary of the Manitoba Medical Association, has been appointed Medical Health Officer for the counties of Northumberland and Durham with headquarters in Coburg, Ont.

♦

Dr. and Mrs. S. S. Toni of Altona, Man., announce the birth of a son on August 11th, 1945, at St. Boniface Hospital.

♦

Dr. Digby Wheeler has been awarded for the third time, the Bank of Commerce trophy for the most beautiful garden in the sixty-six frontage or over class.

♦

Dr. and Mrs. W. F. Stevenson's son (Belmont, Man.) was married on August 8th at Miniota, Man., to Marjorie Doris, only daughter of Mr. and Mrs. J. W. Horner of Miniota, Man.

♦

Dr. M. B. Walters, son of Mr. and Mrs. I. Walters of Winnipeg, is engaged to be married to Kay, youngest daughter of Mr. and Mrs. M. Rotstein of Winnipeg.

♦

Dr. J. Harold MacDonald, formerly with the Defence Industries of Transcona, has now taken up practice as Bissett, Man.

♦

Dr. J. A. C. Swan, formerly at Bissett, Man., is now associated with the Winnipeg Clinic.

Book Reviews

Rypins' Medical Licensure Examinations. Fifth enlarged edition, completely revised under the editorial direction of Walter L. Bierring, M.D., F.A.C.P., M.R.C.P. Edin. 546 pages. J. B. Lippencott Company. $7.50.

The primary purpose of this book is to assist candidates who are preparing themselves for licensing examinations. That it has served this purpose well is evidenced by the appearance of this fifth edition. It can, however, be used by those who have no examination in mind but wish merely to refresh their memories on things forgotten and to learn those new things which are prominent in examination papers upon both familiar and unfamiliar subjects. The book is based upon a critical survey of many thousands of questions actually used throughout the whole United States. A selection of 1,100 typical questions was made and these appear under their proper subjects. There are in all ten subjects—anatomy, physiology, chemistry, bacteriology, pathology, hygiene and preventive medicine, obstetrics and gynecology, medicine, pharmacology and surgery. There are about a hundred questions on each subject and these are preceded by a summary which outlines the more important and the newer facts. By stressing only the significant points and by succinctness of expression, they each illuminate a wide field. Men who have been out of school for a while and who are "rusty" on the academic subjects can bring themselves up to date on many things by a perusal of these very useful summaries, and can test their increased knowledge by answering the questions at the end of each section. It is really remarkable how widely one can review the whole field of medicine by the perusal of this book. It can easily be picked up and laid down without loss of continuity—an advantage for the busy man—and is a very useful reference work.

J. C. H.

♦

A Book a Month

Books are our tools and, as does the artisan, so must we replace the worn and the old with the new. In contradistinction with those of the artisan, however, our tools wear out faster so that their replacement, i.e., the refurnishing of our libraries, is a more frequent necessity. There are a number of "clubs" which undertake to supply their members with a new book each month. Sometimes the title is not directly appealing but the book nevertheless turns out to be enjoyable. In this way and in the course of a year each reader finds that he has easily and comfortably increased his knowledge and interests.

It would be possible, but not very easy, to apply this method to medical reading. The Commonwealth Fund of New York have a modification of this plan. To doctors who put their names upon their list they will at a discount of 25% send every new book they publish. I do not think that it is compulsory to keep titles in which the purchaser is not interested but the publications of this Company are so uniformly excellent that few, I imagine, are returned. A book a month, however, is not too much either to buy or to read. Nor is it wise to confine one's reading to the narrow limits of his greatest interest. For example a doctor may not find allergy a problem in his practice but that is no reason why he should not increase a probably scanty knowledge by reading a concise, comprehensive book such as Criep's Essentials of Allergy. Again one need not be a venereologist to find much of value in Kampmeier's Essentials of Syphilology Indeed the value of reading along unusual or unfamiliar lines is greatest to those who feel that such subjects are unimportant to them. They learn, among other things, that their opinion was wrong. There are other books which on the surface seem to have little to do with actual practice, "Patients are Persons" for example and "Patients Have Families." Yet books of this class are most illuminating, and the freshness of their outlook increases their interest.

One should, of course, buy the outstanding monographs on the subject that is his principal interest. In addition he should purchase new editions of his "basic books." These are the text-books on pathology (Boyd), physiology (Samson Wright), medicine and/or surgery. All of these deserve at least one reading in the year. The value of text-books is that they give one the proven and acepted knowledge at the time of printing. Furthermore, so far as texts on practice are concerned, re-reading them gives a balance to our knowledge and re-informs us about conditions which we do not frequently encounter, and, consequently, may easily fail to recognize.

Journals must be read so that one may find out what is new. But much time can be wasted in reading many articles, and the tendency to focus attention on one system or on one subject dangerously limits the field of diagnostic and therapeutic vision.

To the lips of some who have followed me thus far has already sprung the complaint "I would do this but I have no time." Time is our great enemy for he will not stay and few of us have the leisure that will let us spend two or three hours at a stretch with our books. But there are ways of getting round that. Every one of us

every day can count on several ten to twenty minute intervals of freedom. Allowing only forty minutes a day one can read a 300 page book in a week. The whole 1,200 pages of Price can be read in two months if one will give that editor only twenty minutes a day. It is much less a matter of finding time than of using the time already there. Those who are confined to a few minutes reading each day have really an advantage for the amount of information they gather in these short sessions is small enough for comfortable digestion, and meditation upon it, as they drive upon their rounds or wait for a tardy patient, will give it an emphasis not possible if a forgotten or unfamiliar subject has occupied attention over a long period.

The Medical Library is very anxious that doctors in the country make use of its facilities. All that the service costs is the stamp on the post card on which the request is made. The Library bears all the transportation charges. It is a good way to find out which books are useful. But when a book is seen to be useful it should have a place by your side, immediately ready to give help. It is like having a consultant with you in the same office.

But books grow old and cease to be useful; then they must be replaced, and doing this at the rate of one a month is a comfortable speed; it gives one a chance to read each volume before the next one arrives.

♦

Obituary

Dr. Abraham Lewis Shubin

The death of Dr. Abraham Lewis Shubin, aged 51, who died at his residence, 375 Machray Avenue, on August 13th, after a short illness, removes from our midst a studious, thoughtful practitioner.

Born at Kiev, in the Russian Ukraine, he came to Winnipeg as a young man of nineteen. After high school training he graduated in medicine in 1923 from the University of Manitoba. He practised first at Redditt, Ontario, but after a few years came to Winnipeg where he established a reputation as a conscientious physician with special skill in the diagnosis of heart conditions.

Outside his profession he was interested in education and was prominent in the activities of the Winnipeg Hebrew Free School. He was said to be exceptionally well versed in Hebrew language and literature.

He is survived by his widow, a son and three daughters. A man of high ideals, he leaves behind him a memory of courtesy, thoughtfulness and knowledge.

Manitoba Medical Service

I have had complaints from our administrative staff of incivility on the part of some doctors (of course a very few) when called upon for information about a case. The necessity of the call is usually for the following reasons: illegibility of the diagnosis, insufficient information to permit assessment of the account, no diagnosis, no fee, or for information which the doctor alone can give, and which the subscriber has authorized the doctor to give when requested.

I have asked the staff members to record the names of such doctors, and if their attitude remains the same, they will not be called again. The information is nearly always asked for by me; if it is not forthcoming, I shall assess the bills on the actual report, which may be much below the value of the doctor's services. It should be added that the girls tell me that the large majority of doctors are very nice and very co-operative.

Owing to the volume of material that can only be decided by the Board of Trustees, meetings have to be held every month instead of calling off for the months of July and August.

It is now possible to give some statistics of the work being done. They will be published from time to time, and in moderate quantities, as readers would probably lose interest if a mass of figures appeared on this page. We get requests from the American Medical Association, several Medical Societies in the States, and the directors of other plans, also mostly to the South of us, for details of our organization, and methods of application. This pooling of the results of many different plans is a very valuable part of the work being carried on. It is likely that Medical Services will soon follow the lead of Blue Cross Hospital Services, which, through a central bureau, collects information from all the different plans, analyses it statistically, and sends the findings at regular intervals to member groups. At the moment we get help chiefly on the A or surgical emergency plan, because most of the U.S.A. plans provide only for surgical emergencies treated in hospital.

Enrolment:

Plan "A" as at January 1st, 1945	1,344	
Plan "A" as at June 30th, 1945	2,462	an increase of 1,118
Plan "B" as at January 1st, 1945	6,959	
Plan "B" as at June 30th, 1945	15,002	an increase of 8,043

Plan "A" from January 1st to May 31st — 64 patiets required surgical treatment or .6 of enrolment.
Plan "B" from January 1st to May 31st — 5,783 patients required care or 11.5 of enrolment.
For January, 1945 — 1,093 claims were passed for payment.
For June, 1945 — 2,235 claims were passed for payment.
The average cost per claim is $11.62 over the six month period.
Specialists who are 36% of all medical members, receive 48% of amounts payable.
5% Late Filing Penalty enforced on accounts payable in March, for the four month period amount to $514.93 and while there is quite an increase in the number of claims received, the penalized claims are decreasing considerably.

Special Services	Lab.	X-Ray	E.K.G.	B.M.R.	Total Cost		
January, 1945	$305.00	$1,064.00	$25.00	$115.00	$1,509.00	12.4%	of Total Claims Payable
February, 1945	511.00	1,057.00	30.00	115.00	1,713.00	12.7%	" " "
March, 1945	562.00	1,270.00	65.00	126.00	2,023.00	13.2%	" " "
April, 1945	120.00	551.00	10.00	60.00	741.00	13.5%	" " "
May, 1945	959.00	1,346.00	45.00	229.00	2,579.00	11.4%	" " "

Owing to the change of system effective April 30th, quite a proportion of April Claims were absorbed in May accounts.

Several doctors who send in many reports monthly, have taken the advice of this office to have a rubber stamp of their signature, **and number,** made. It saves a good deal of a doctor's time. Similarly if reports of completed cases were sent in weekly instead of at the end of the month, it would lighten the load of both the doctor and his secretary.

Thought For To-day

Should the operation of tonsillectomy be classed as a communicable disease?

This thought arises when observing the number of instances where two or three young members of a family enter hospital on the same day.

Referring Patients to Non-Member Doctors

Medical members frequently refer patients to non-member doctors. Patients' attention should be drawn to the fact that they will have to pay non-member doctors fees. Complaints are made to this office that this information was not given, and they feel that they have been unfairly treated.

The Public Attitude

Frank Redmond, Sales Representative
Manitoba Medical Service

What does the public think of the Manitoba

Medical Service? Dr. Moorhead has asked sales representatives of the Manitoba Medical Service for a statement of the questions most frequently asked by employer or employee in regard to the Service.

Generally speaking, the public is insistent on some form of protection against the hazard of a sickness bill. It prefers that this be voluntary, but failing adequate provision through voluntary effort, it expects the Government to act. The attitude toward the Manitoba Medical Service is, on the whole, good. Naturally, at the outset there is some suspicion, some questioning of the good faith of the doctors, and some misunderstandings. These can be easily offset as the co-operation and good-will of the doctors is made apparent in the operation of the Service.

Questions we are asked, the doctors are asked by their patients. Correct answers are constructive.

Frequent Questions

Q. Why must there be group enrolment?

A. Rates are based on the average demand for care of the public as a whole. Group enrolment is a device which is calculated to give an approximation of this demand. If a group enrolled represents a cross-section of the employees in the establishment, as sufficient groups are enrolled, the demand reflects the experience of the public. Insistence on enrolment of employed persons with their dependents only, gives a margin of selection in favor of the Service very necessary in the initial stages.

Q. Why cannot an individual be enrolled for Medical Service?

A. If an individual could join when he wished to join, the tendency would be for him to join when he anticipates care. Medical questionnaires, etc., do not give the necessary protection to the Plan which group enrolment gives.

Q. How long may the subscriber continue his contract with the Manitoba Medical Service?

A. As long as he is employed in Manitoba. If he retires he may continue after the age of 65 for as many years as he was a member, before 65.

Q. What happens if a subscriber leaves his place of employment?

A. He may continue his protection until the end of the then current contract year. If he becomes re-employed within this term he may renew the contract. Otherwise, it must be terminated.

Q. What is the basic reasoning behind this regulation? The subscriber often feels he should be permitted to continue his membership if he pays the fees even if he is unemployed.

A. It is actuarial. An employed person uses less care than an unemployed. When an employed person is sick, he loses time, i.e., wages—hence he is a co-insurer. An unemployed person has not the same incentive to early recovery. Then again, the married man is the best risk in the community. The single girl who marries and leaves her employ is prevented from continuing her protection as an individual. Her husband must join to afford her protection. This improves the rate structure and the composition of the membership.

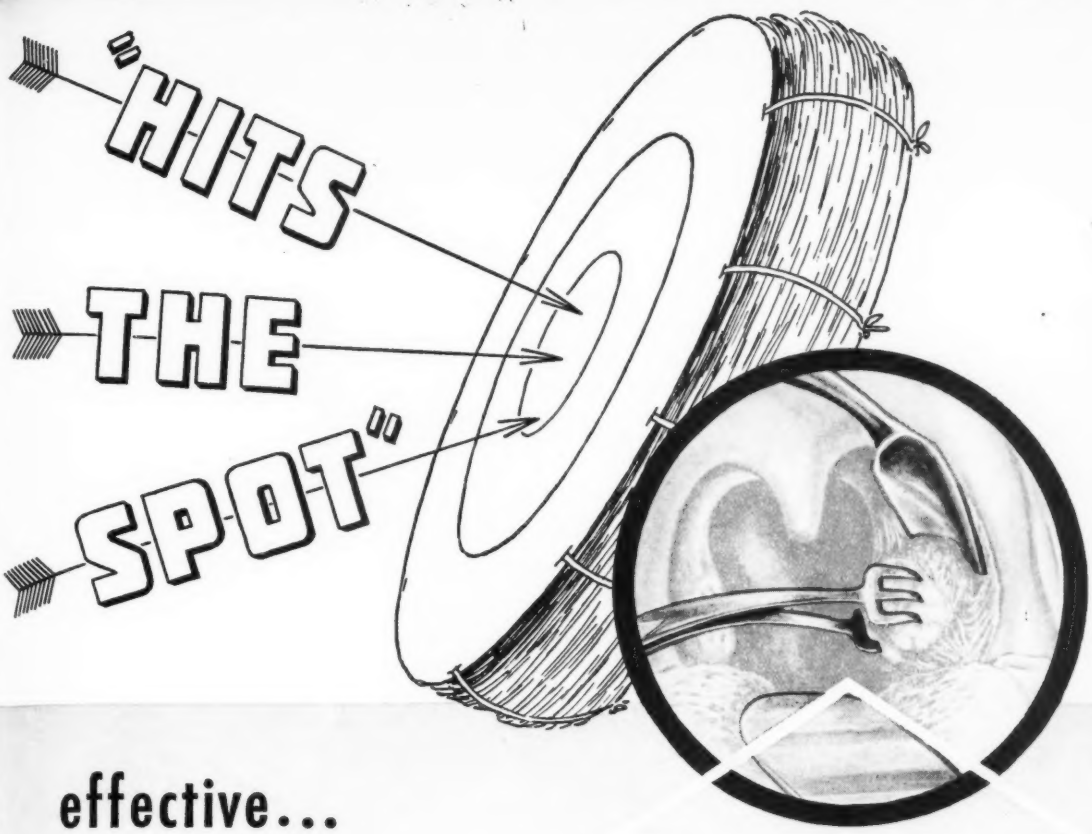
Q. The Manitoba Medical Service office receives many calls from irate subscribers to Medical Service who have received an account from their doctors. Upon questioning the subscriber it is found that for various reasons the doctor is not aware that the patient is a member of the Manitoba Medical Service, therefore the doctor is then obliged to send his account to the Manitoba Medical Service, involving additional work, etc. The only way in which such a situation may be straightened out is by the doctor sending in a late account involving additional work in both his and the Association's office. Is there anything that the doctors can do to alleviate this?

A. Many doctors have instructed their nurses and clerical staff to ask the patient on the initial visit whether he is a member of Medical Service. Such a practice simplifies office routine and improves subscriber-office-doctor relations. This has been commented on favorably by a number of groups. It has been suggested that its general adoption will avoid misunderstandings. The hospitals found at an early date that this was a desirable procedure and a great help in keeping their accounts in order.

We, as representatives, have discovered that many employers are not aware that $25.00 per employee per year is an allowable expense for corporation tax purposes. Where management participates in the payment of the subscription fee there results appreciable percentage reductions in labor turnover, loss of time, compensational accidents and occupational diseases. There is an increase in the average efficiency of the employee and better employer-employee relationship.

Employer participation affects the percentage enrolment of a group. For instance, one staff of 600 enrolled 100% for a complete Medical and Hospital service. Enrolment on the part of each employee was voluntary. Many stated the medical service received in the past had been entirely from the out-patient departments of the hospitals.

We feel encouraged as to the ultimate success of the Service. We recognize that this depends on the mutual co-operation of public and doctors, with the ultimate answer in the hands of the doctors themselves. Once a man is enrolled, satisfaction with the care provided, alone, will retain his membership.



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Department of Health and Public Welfare

Comparisons Communicable Diseases — Manitoba (Whites and Indians)

DISEASES	1945 June 17 to July 14	1945 May 20 to June 16	1944 June 18 to July 15	1944 May 21 to June 17	TOTALS Jan. 1 to July 14,'45	TOTALS Jan. 1 to July 15,'44
Anterior Poliomyelitis	1	1	1	2	8	5
Chickenpox	240	235	147	184	1528	1542
Diphtheria	12	12	27	27	162	108
Diphtheria Carriers	....	1	1	3	23	19
Dysentery—Amoebic	....	....	....	....	....	....
Dysentery—Bacillary	....	3	2	2	4	5
Erysipelas	3	2	4	1	33	47
Encephalitis	1	1	1	1	3	5
Influenza	1	14	4	13	105	200
Measles	51	124	332	806	438	5008
Measles—German	5	11	9	20	33	233
Meningococcal Meningitis	....	2	....	4	10	17
Mumps	125	186	42	82	1119	1418
Ophthalmia Neonatorum	....	....	....	....	....	....
Pneumonia—Lobar	4	8	12	16	63	140
Puerperal Fever	....	....	....	1	....	4
Scarlet Fever	39	55	92	160	437	1711
Septic Sore Throat	2	3	....	4	14	21
Smallpox	....	....	....	....	....	....
Tetanus	....	....	....	....	....	1
Trachoma	....	....	....	....	....	....
Tuberculosis	63	70	61	91	321	386
Typhoid Fever	....	1	....	2	24	41
Typhoid Paratyphoid	....	1	....	....	3	....
Typhoid Carriers	1	....	1	....	3	1
Undulant Fever	....	....	....	2	6	4
Whooping Cough	7	15	26	43	197	222
Gonorrhoea	169	192	111	132	1023	924
Syphilis	33	42	53	52	313	349
Actinomycosis	....	....	....	....	....	2

DISEASES (white cases only) *Approximate Populations.	*726,000 Manitoba	*3,825,000 Ontario	*906,000 Saskatchewan	*2,972,300 Minnesota	*641,925 North Dakota
Actinomycosis	....	....	....	....	....
Anterior Poliomyelitis	1	5	....	1	1
Chickenpox	239	1,018	79	....	15
Diphtheria	12	4	1	12	9
Diphtheria Carriers	....	....	....	....	....
Dysentery—Amoebic	....	....	....	10	....
Bacillary	....	....	....	....	....
Encephalitis, Epidemica	....	....	....	....	....
Erysipelas	3	3	2	....	....
Influenza	1	105	....	....	17
Jaundice—Infectious	....	7	3	....	....
Measles	51	544	101	27	7
Measles—German	5	239	12	....	....
Meningococcal Meningitis	....	5	2	6	....
Mumps	125	303	83	....	....
Ophthalmia Neonatorum	....	....	....	....	....
Puerperal Fever	....	....	....	....	....
Scarlet Fever	39	138	24	151	27
Septic Sore Throat	2	87	....	....	....
Smallpox	....	....	....	....	2
Trachoma	....	....	....	....	....
Tetanus	....	....	....	....	1
Tuberculosis	63	96	51	21	12
Typhoid Fever	....	1	1	....	4
Typhoid Fever Carriers	1	....	....	....	....
Typhoid Paratyphoid Fever	....	1	1	....	....
Undulant Fever	....	3	....	17	1
Whooping Cough	7	108	4	29	3
Gonorrhoea	169	615	....	....	62
Syphilis	33	296	....	....	20

DEATHS FROM COMMUNICABLE DISEASES

May, 1945

Urban—Cancer, 45; Pneumonia (other forms), 8; Tuberculosis, 6; Syphilis, 4; Pneumonia Lobar, 3; Diphtheria, 1; Influenza, 1; Hodgkin's Disease, 1. Other deaths under 1 year, 14. Other deaths over 1 year, 179. Stillbirths, 21. Total, 263.

Rural—Cancer, 24; Pneumonia (other forms), 10; Tuberculosis, 10; Pneumonia Lobar, 5; Syphilis, 3; Influenza, 2; Diphtheria, 2; Lethargic encephalitis, 1; Measles, 1; Septic Sore Throat, 1; Pyemia, 1. Other deaths under 1 year, 30. Other deaths over 1 year, 182. Stillbirths, 11. Total, 283.

Indians — Tuberculosis, 2. Other deaths under 1 year, 1. Other deaths over 1 year, 0. Stillbirths, 0. Total, 3.

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Smallpox—Two cases reported in North Dakota. Disease recognizes no boundaries!

National Immunization Week is being held this year from September 30th to October 6th under the sponsorship of the Health League of Canada. This will be widely advertised in Canadian papers and magazines, and in movies and over the radio.

In the Department we believe that **every week** should be immunization week, but special publicity is a good way to bring this to the attention of the public. So, be prepared to co-operate by talking, and giving immunization to everyone who should have it.

Department of Health and Public Welfare

The Alberta Government has just distributed the report of its Post-War Reconstruction Committee. In respect to the Report of the sub-committee on Social Welfare, a wide survey has been made of the needs of the Alberta population and one phase of the study of particular interest to medical practitioners is the question of children and their need of preparation for citizenship. The following are the recommendations of the sub-committee.

That preventive and curative medical care be made available to all.

That the number of Health Units and their staffs be increased as a means to further education of parents in methods to guard the health of their children.

That child guidance work be greatly expanded and increased numbers of psychiatrists, psychologists and social workers be employed, and more clinics be held.

That men and women gifted as social workers be encouraged to take special training and that facilities for such training be provided in the University of Alberta.

That building accommodation and staff for the care and treatment of mentally handicapped and physically defective children be increased.

That specialized education for deaf and blind children and those crippled by any cause as well as poliomyelitis be encouraged.

That careful consideration be given to prevent overlapping in the work of public health nurses and social welfare workers, especially in rural districts.

That facilities for the education of parents in matters pertaining to child behaviour be provided.

That co-operation between parents, school and church authorities on matters pertaining to child guidance be encouraged.

That suitable child guidance personnel in the schools and supervised recreation be employed effectively as important preventatives of juvenile delinquency, and the Province classify juvenile delinquency regarding municipal laws.

That the establishment of a Domestic Relations Court be seriously considered for Alberta.

That consideration be given to the appointment of suitably trained women, as Juvenile Judges and Magistrates.

That the moral and social tone of school education be raised by all available means, including:

(a) Careful selection and training of prospective teachers.

(b) Much higher financial rewards for those teachers displaying genuine ability, exemplary character and permanent interest in teaching our youth how to live.

(c) Careful cultivation of the consumer attitude in both teacher and pupil so that education will more nearly fit children for the problems of real life.

(d) Definite teaching of Christian principles in the schools and their application to all current problems of individual and state.

That all parents be constantly reminded and assisted in their duty to train their own children for socially useful, happy lives in the way that no outside agency can ever hope to do, counteracting the strong, destructive, vulgarizing effects of modern commercialism (movies, hideous stories on radio, vulgar advertising, etc.), by maintaining home and family life on highest levels of Christian virtue and love.

Something Old

Continued from Page 385

a saddler, who had buried all the rest of his children of the plague, and himself and wife now being shut up in despair of escaping, did desire only to save the life of this little child; and so prevailed to have it received stark-naked into the arms of a friend, who brought it, having put it into fresh clothes, to Greenwich; where, upon hearing the story, we did agree it should be permitted to be received and kept in the town.

—Pepy's "Diary".